OEM

USER MANUAL

VKP80III

Commands manual **7720000000200**

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THE IMAGES USED IN THIS MANUAL ARE USED AS AN ILLUSTRATIVE EXAMPLES. THEY COULDN'T REPRODUCE THE DESCRIBED MODEL FAITHFULLY.

UNLESS OTHERWISE SPECIFIED, THE INFORMATION GIVEN IN THIS MANUAL ARE REFERRED TO ALL MODELS IN PRODUCTION AT THE ISSUE DATE OF THIS DOCUMENT.

GENERAL SAFETY INFORMATION

Your attention is drawn to the following actions that could compromise the characteristics of the product:

- Read and retain the instructions which follow.
- Follow all indications and instructions given on the device.
- Make sure that the surface on which the device rests is stable. If it is not, the device could fall, seriously damaging it.
- Make sure that the device rests on a hard (non-padded) surface and that there is sufficient ventilation.
- When positioning the device, make sure cables do not get damaged.
- Use the type of electrical power supply indicated on the device label. If uncertain, contact your dealer.
- Make sure the electrical system that supplies power to the device is equipped with a ground wire and is protected by a differential switch.
- Do not block the ventilation openings.
- Do not insert objects inside the device as this could cause short-circuiting or damage components that could jeopardize printer functioning.
- Do not carry out repairs on the device yourself, except for the normal maintenance operations given in the user manual.
- Make sure that there is an easily-accessible outlet with a capacity of no less than 10A closely to where the device is to be installed.
- Periodically perform scheduled maintenance on the device to avoid dirt build-up that could compromise the correct, safe operation of the unit.
- Before any type of work is done on the machine, disconnect the power supply.
- Do not touch the head heating line with bare hands or metal objects. Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

GENERAL INSTRUCTIONS

CUSTOM ENGINEERING S.p.A. declines all responsibility for accidents or damage to persons or property occurring as a result of tampering, structural or functional modifications, unsuitable or incorrect installations, environments not in keeping with the equipment's protection degree or with the required temperature and humidity conditions, failure to carry out maintenance and periodical inspections and poor repair work.

CE THE CE MARK AFFIXED TO THE PRODUCT CERTIFY THAT THE PRODUCT SATISFIES THE BASIC SAFETY REQUIREMENTS.

The device is in conformity with the essential Electromagnetic Compatibility and Electric Safety requirements laid down in Directives 2006/95/CE and 2004/108/CE inasmuch as it was designed in conformity with the provisions laid down in the following Standards:

- EN 55022 Class B *(Limits and methods of measurements of radio disturbance characteristics of Information Technology Equipment)*
- EN 55024 *(Information Technology Equipment – Immunity characteristics – Limits and methods of measurement)*
- EN 60950-1 *(Safety of information equipment including electrical business equipment)*

GUIDELINES FOR THE DISPOSAL OF THE PRODUCT

The crossed-out rubbish bin logo means that used electrical and electronic products shall NOT be mixed with unsorted municipal waste. For more detailed information about recycling of this product, refer to the instructions of your country for the disposal of these products.

- Do not dispose of this equipment as miscellaneous solid municipal waste, but arrange to have it collected separately.
- The re-use or correct recycling of the electronic and electrical equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2002/96/EC, special collection points are available to which to deliver waste electrical and electronic equipment and the equipment can also be handed over to a distributor at the moment of purchasing a new equivalent type.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with the appropriate penalties.

The format used for this manual improves use of natural resources reducing the quantity of necessary paper to print this copy.

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1 INTRODUCTION

1.1 Document structure

This document includes the following chapters:

1	INTRODUCTION	information about this document
2	DESCRIPTION	general description of device
3	INSTALLATION	information required for a correct installation of the device
4	OPERATION	information required to make the device operative
5	CONFIGURATION	description of the configuration parameters of the device
6	MAINTENANCE	information for a correct periodic maintenance
7	SPECIFICATION	technical specification for the device and its accessories
8	CONSUMABLES	description and installation of the available consumables for the device
9	ACCESSORIES	description and installation of the available accessories for the device
10	ALIGNMENT	information required for managing the paper alignment
11	TECHNICAL SERVICE	information required for contacting the technical service

1.2 Explanatory notes used in this manual

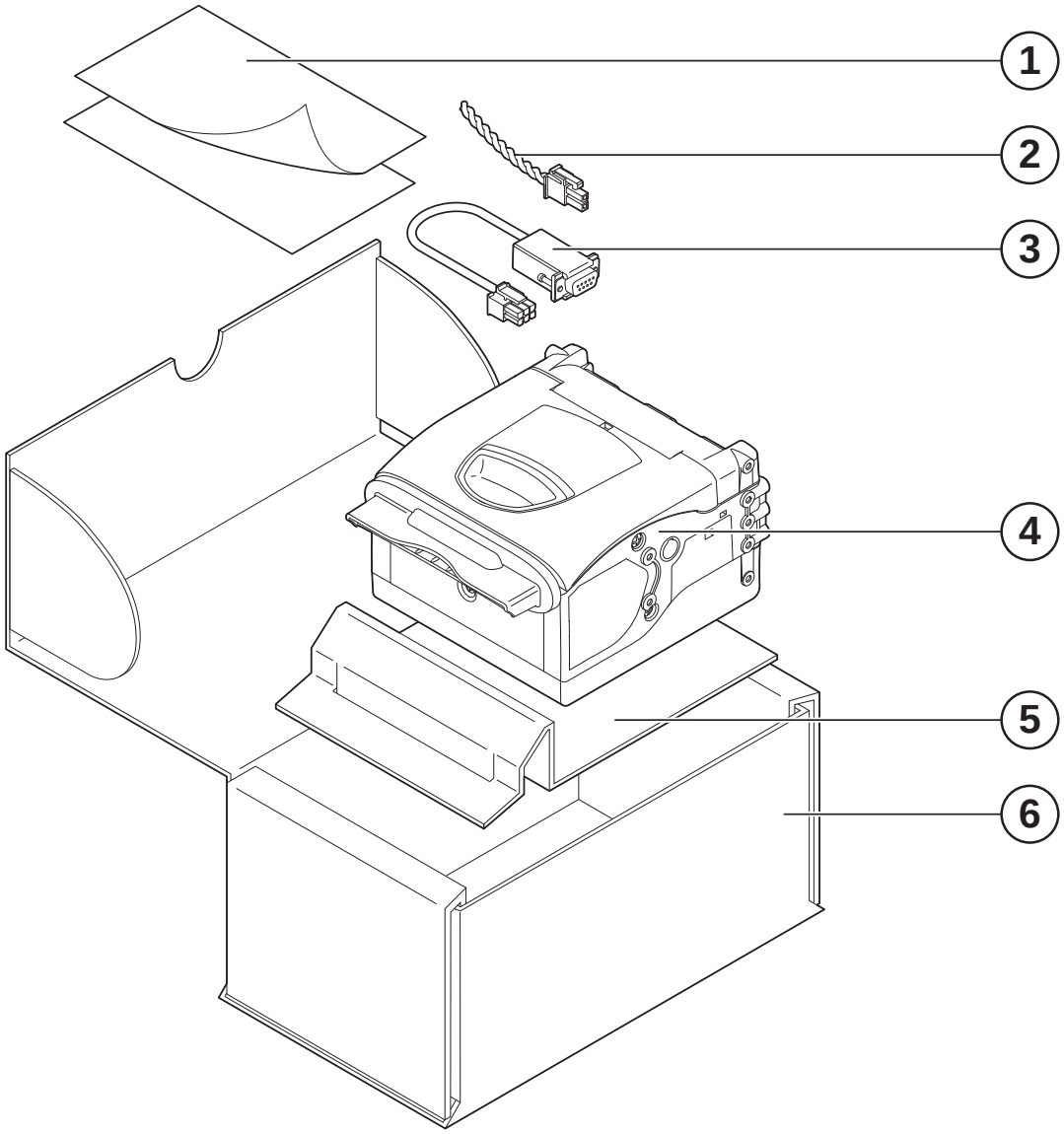
NOTE:	Information or suggestions relative to the use of the printer.
ATTENTION:	Information required to guard against damaging the printer.
DANGER:	Information required to guard against operator injury or damage.

2 DESCRIPTION

2.1 Unpacking the device

Remove the device from its carton being careful not to damage the packing material so that it may be re-used if the printer is to be transported in the future.
Make sure that all the components illustrated below are present and that there are no signs of damage. If there are, contact Customer Service.

1. Installation instructions
2. Power supply cable
3. Adapter cable
4. Printer
5. Foam packing shell
6. Box

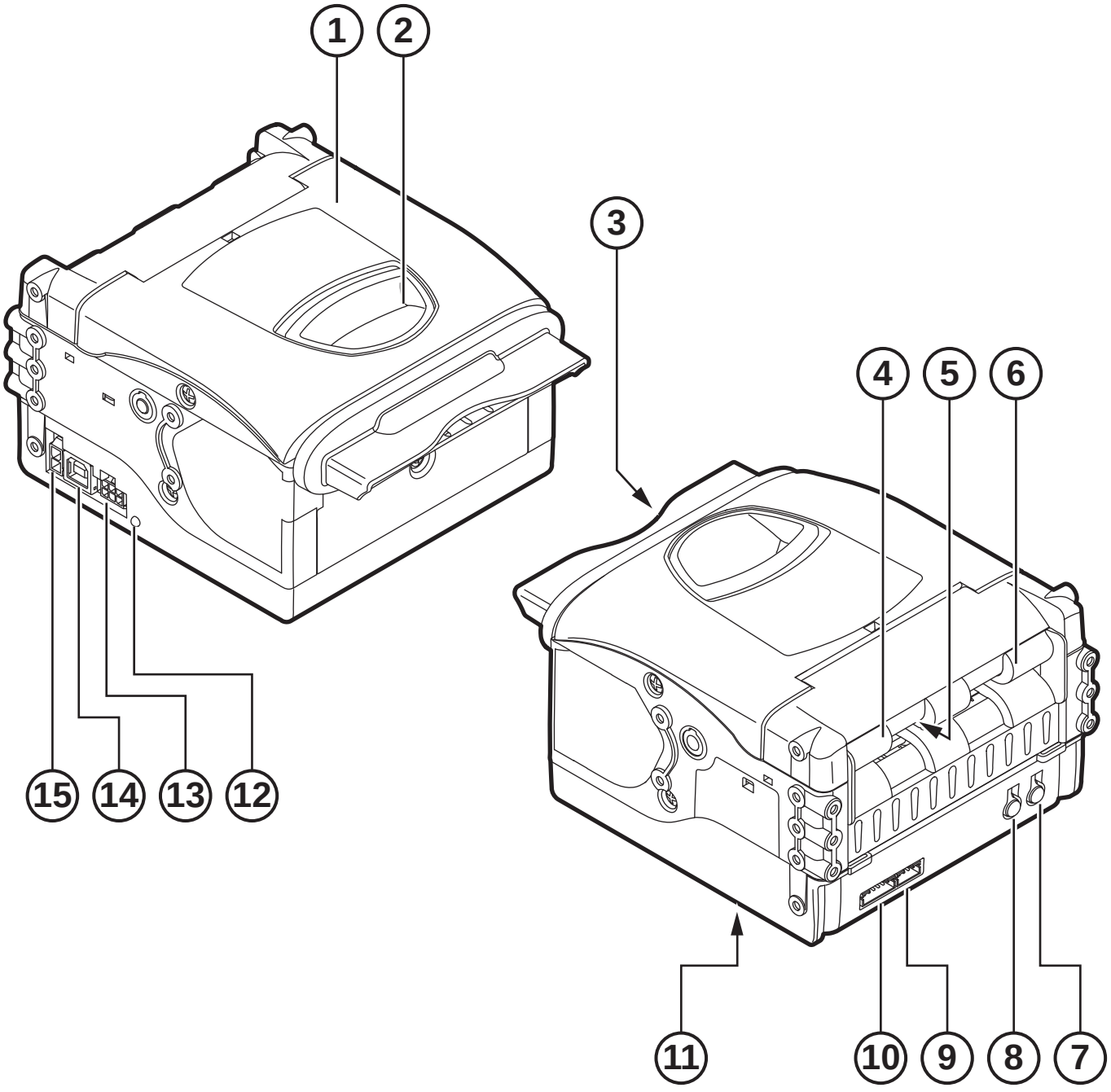


- Open the printer packaging
- Remove the upper packing frame content and remove the packing frame.
- Take out the printer.
- Keep the box, trays and packing materials in the event the printer must be transported/shipped in the future.

2.2 Device component

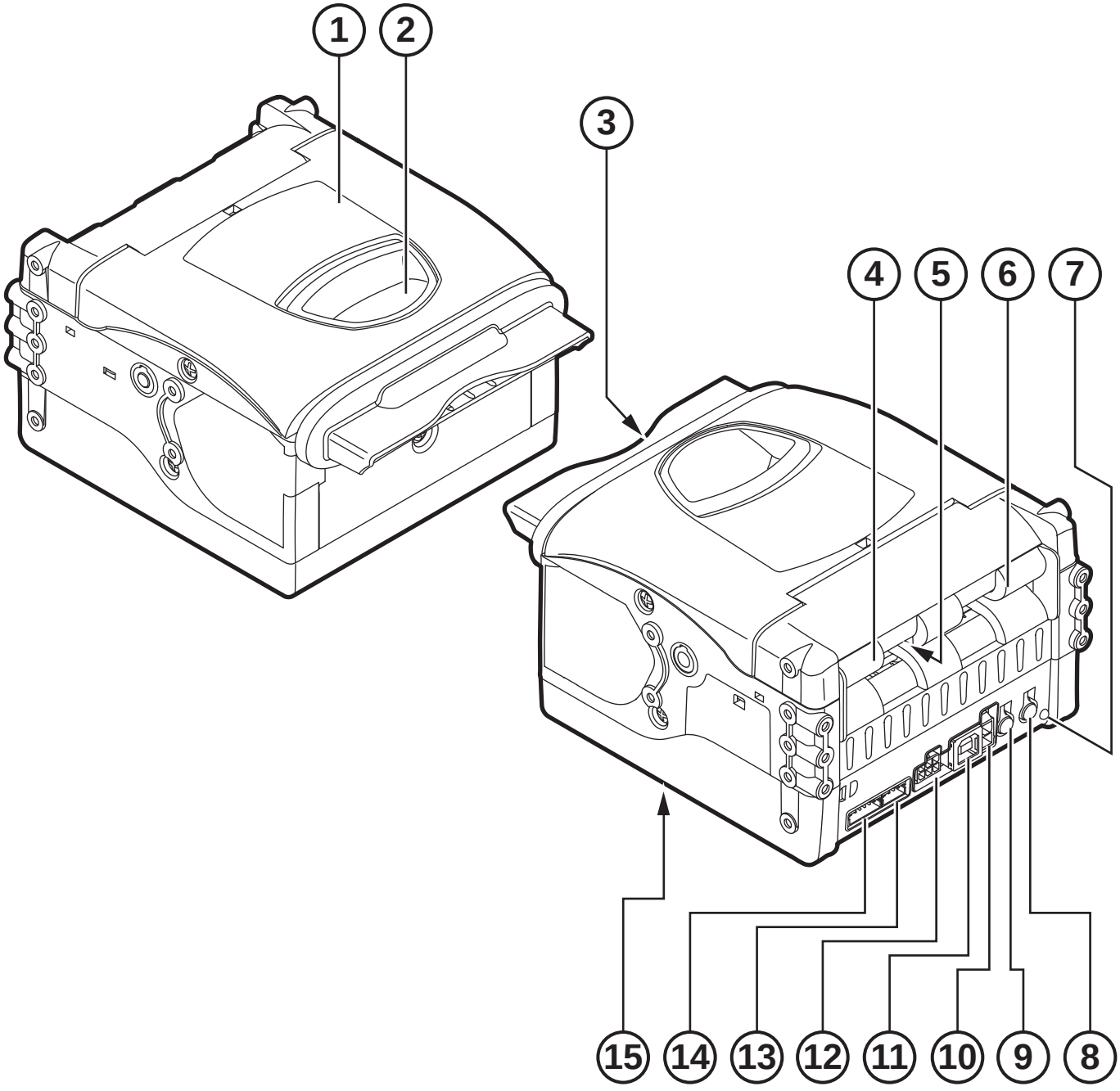
EXTERNAL VIEW
(models with lateral connectors)

1. Printer cover
2. Opening lever
3. Paper output
4. Left cursor for paper input
5. Paper input
6. Right cursor for paper input
7. FORM FEED key
8. LINE FEED key
9. Connector for near paper end sensor (external)
10. Expansion connector (for optional external device)
11. Product label
12. Status led
13. RS232 interface connector
14. USB interface connector
15. Power supply connector



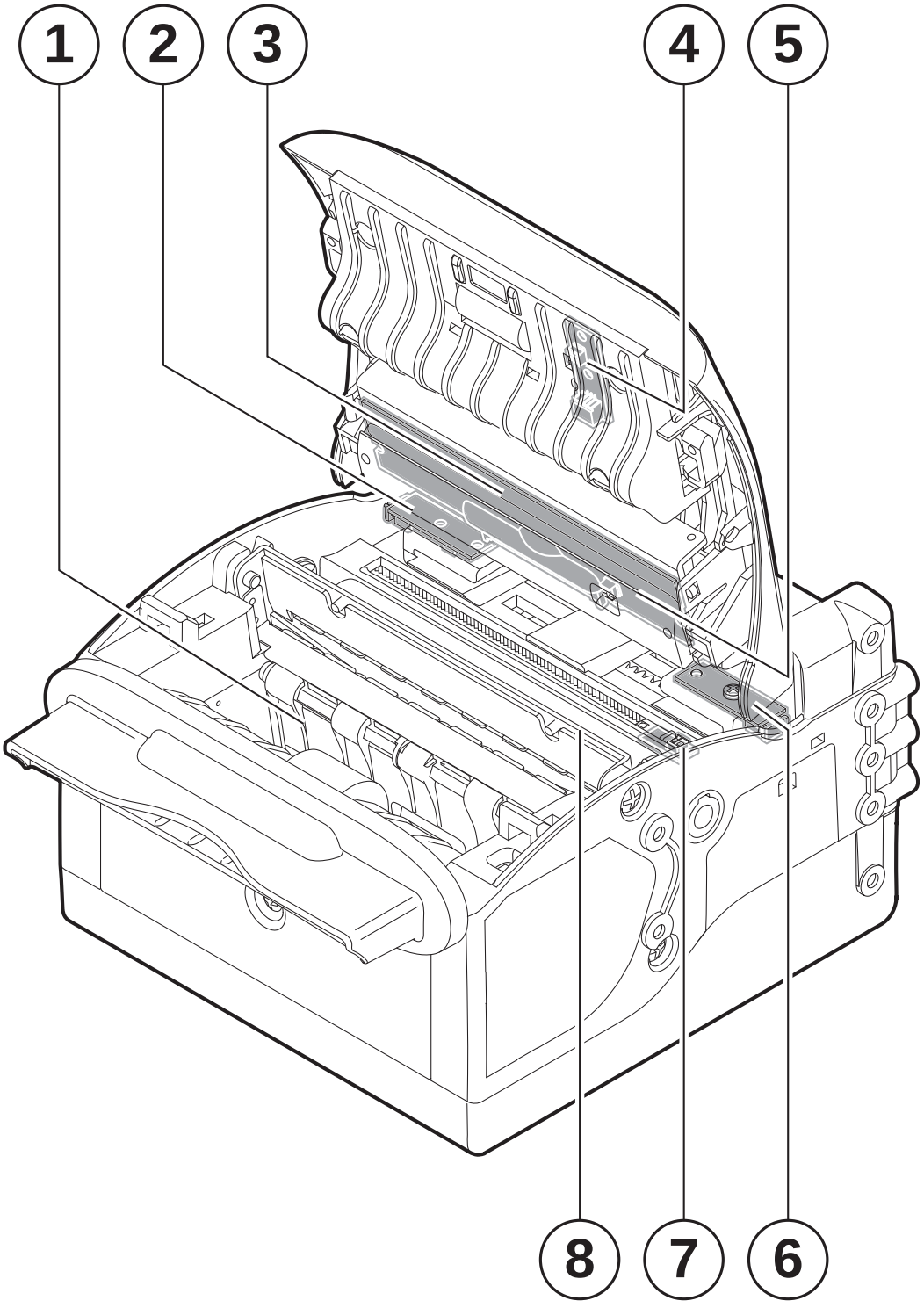
EXTERNAL VIEW
(models with rear connectors)

1. Printer cover
2. Opening lever
3. Paper output
4. Left cursor for paper input
5. Paper input
6. Right cursor for paper input
7. Status led
8. FORM FEED key
9. LINE FEED key
10. Power supply connector
11. USB interface connector
12. RS232 interface connector
13. Connector for near paper end sensor (external)
14. Expansion connector (for optional external device)
15. Product label



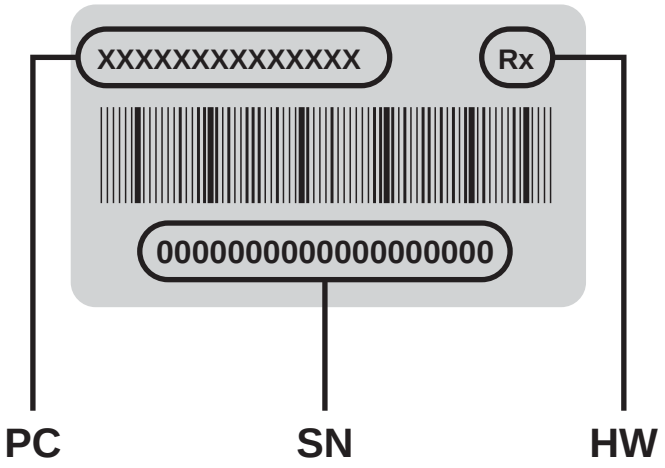
INTERNAL VIEW
(all models)

1. Ejector bulkhead
2. Upper left sensor for notch (optional)
3. Printing head
4. Paper out presence sensors
5. Paper in presence sensors (built-in printing head)
6. Upper right sensor for notch (optional)
7. Lower mobile sensor for notch
8. Cutter



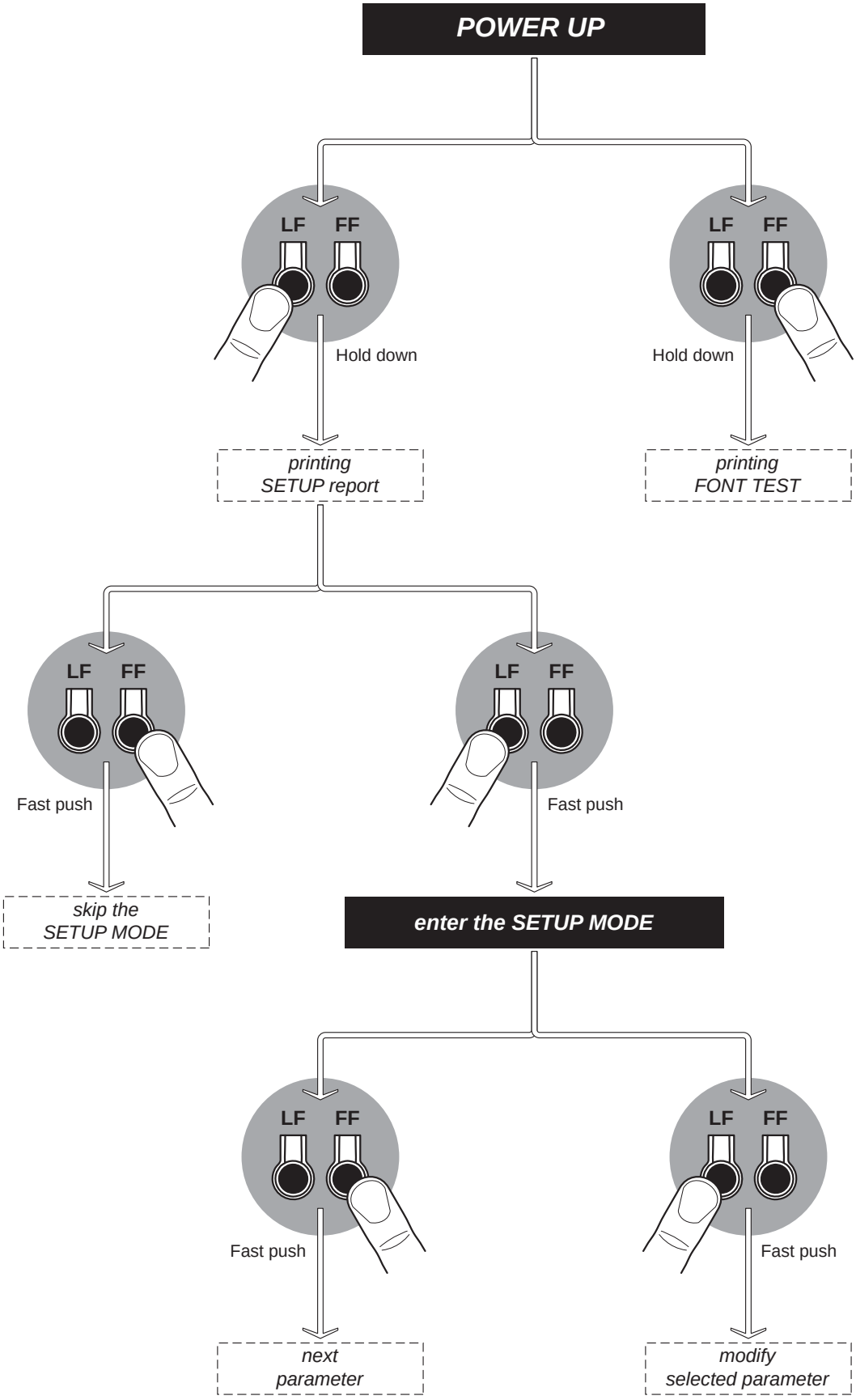
PRODUCT LABEL
(all models)

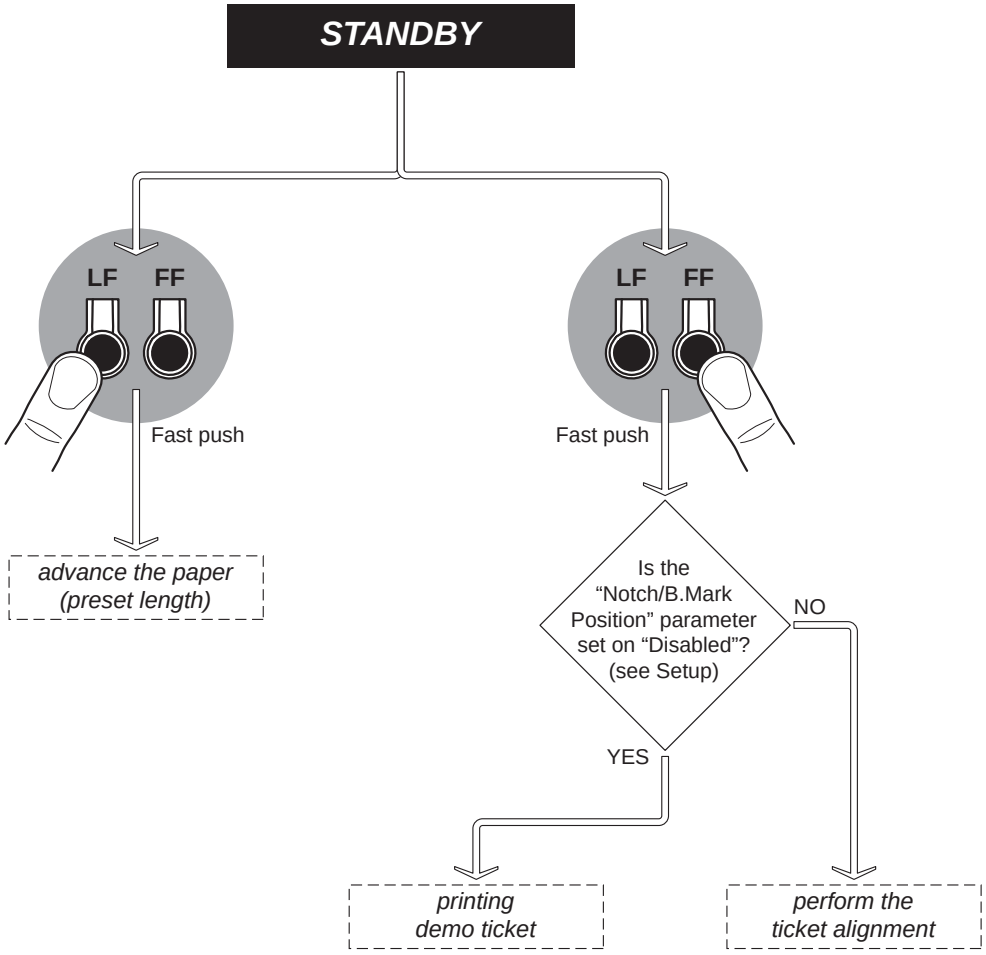
PC = Product code (14 digits)
SN = Serial number
HW = Hardware release



2.3 Key functions

The following figures show the functions of printer's keys according to the operating condition of the device.




STANDBY
LF
FF
Fast push
advance the paper
(preset length)
LF
FF
Fast push
Is the
“Notch/B.Mark
Position” parameter
set on “Disabled”?
(see Setup)
NO
YES
printing
demo ticket
perform the
ticket alignment

2.4 Status led flashes

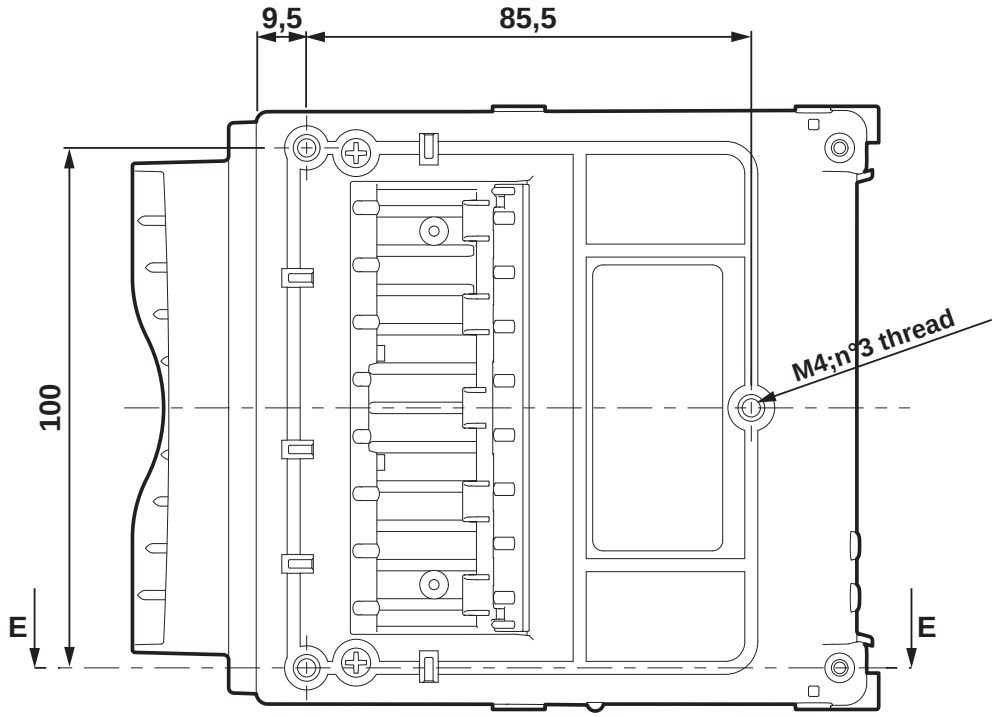
The Status led indicates hardware status of device. Given in the table below are the various led signals and the corresponding printer status.

STATUS LED			DESCRIPTION
-	○	***OFF***	PRINTER OFF
GREEN	●	***ON***	PRINTER ON: NO ERROR
GREEN COMMUNICATION STATUS	☀	***1 x***	RECEIVE DATA
		2 x	RECEPTION ERRORS (PARITY, FRAME ERROR, OVERRUN ERROR)
		3 x	COMMAND NOT RECOGNIZED
		4 x	COMMAND RECEPTION TIME OUT
YELLOW RECOVERABLE ERROR	☀	***2 x***	HEADING OVER TEMPERATURE
		3 x	PAPER END
		4 x	PAPER JAM
		5 x	POWER SUPPLY VOLTAGE INCORRECT
		6 x	COVER OPEN
RED UNRECOVERABLE ERROR	☀	***1 x***	EJECTOR ROLLER ERROR
		2 x	EJECTOR BULKHEAD ERROR
		3 x	RAM ERROR
		4 x	EXTERNAL FLASH ERROR
		5 x	CUTTER ERROR

3 INSTALLATION

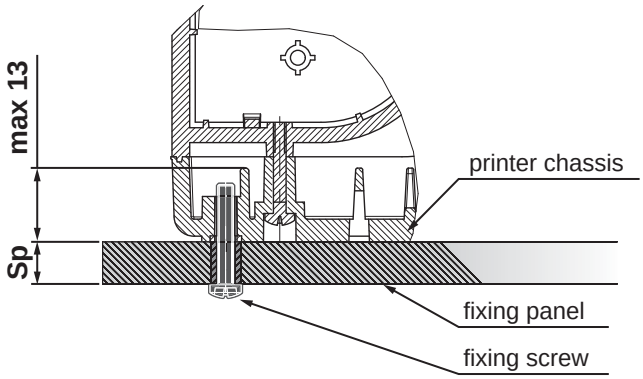
3.1 Fastening

The printer is provided with three fixing holes on the bottom of device (see following figure). To fasten the printer on a panel, use three M4 screws



It's very important to consider the screws length to not damage the internal components placed near the fixing holes (see following figure).

Section E-E



The screw length (L) will be calculated according to the thickness of the panel (SP) on which the printer is fixed, as follows

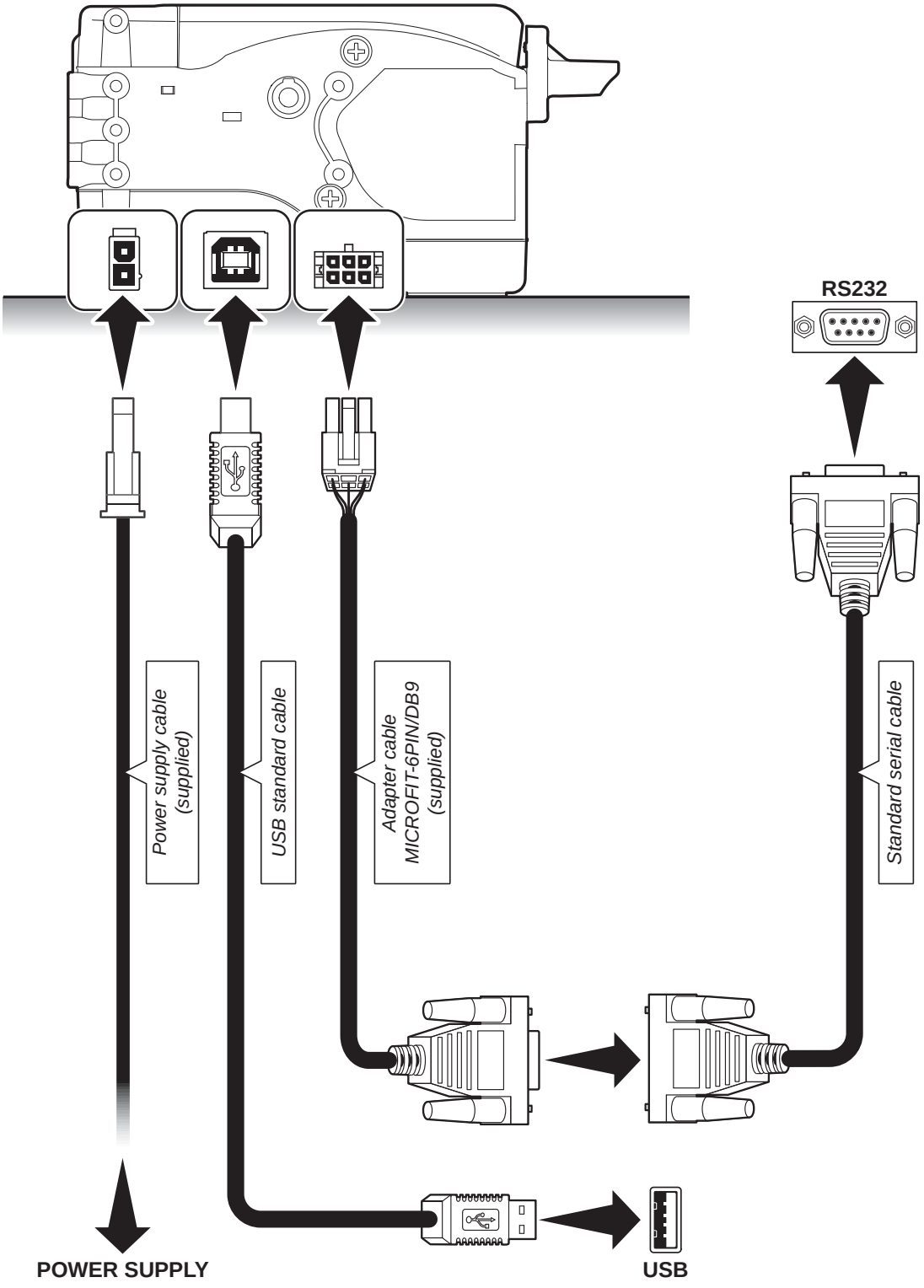
$$L \leq 13mm + Sp$$

For example, if panel thickness is 10mm (Sp = 10mm) the max screw length will be 23mm.

3.2 Connections

The following figures show the pollible connections for device.

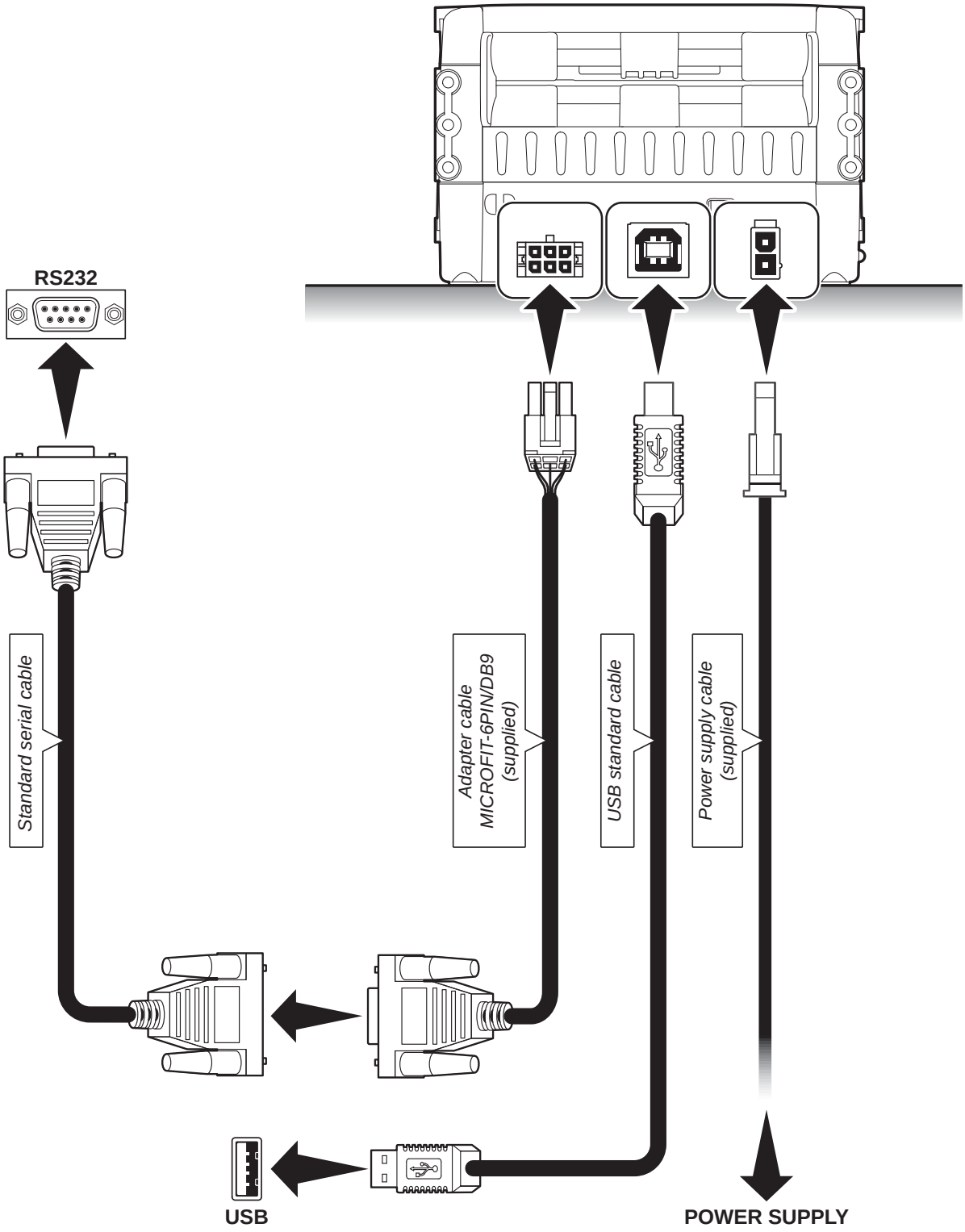
MODEL WITH LATERAL CONNECTORS



ATTENTION:
In some using conditions, we recommend the installation of a ferrite core on the power supply cable.

Note: If RS232 and USB connectors are inserted, communication port is USB.

MODEL WITH REAR CONNECTORS



ATTENTION:
In some using conditions, we recommend the installation of a ferrite core on the power supply cable.

Note: If RS232 and USB connectors are inserted, communication port is USB.

3.3 Pinout

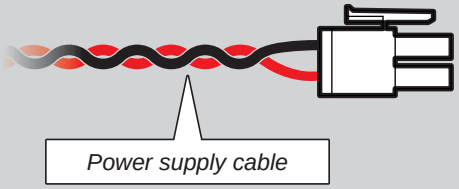
POWER SUPPLY

Male Molex connector series 5569 vertical (no. 39-30-1020)

J13	1	+24 Vdc
	2	GND

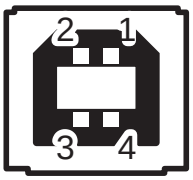
ATTENTION:
Respect power supply polarity.

Note: ***Power supply cable***
The following figure shows the connector pinout of the power supply cable for the device:



Female Molex connector series 5557 (n.39-01-3022)

PIN	*Cable color*	*Signal*
1	*Red*	*+24V*
2	*Black*	*GND*



USB INTERFACE

Female USB type B connector

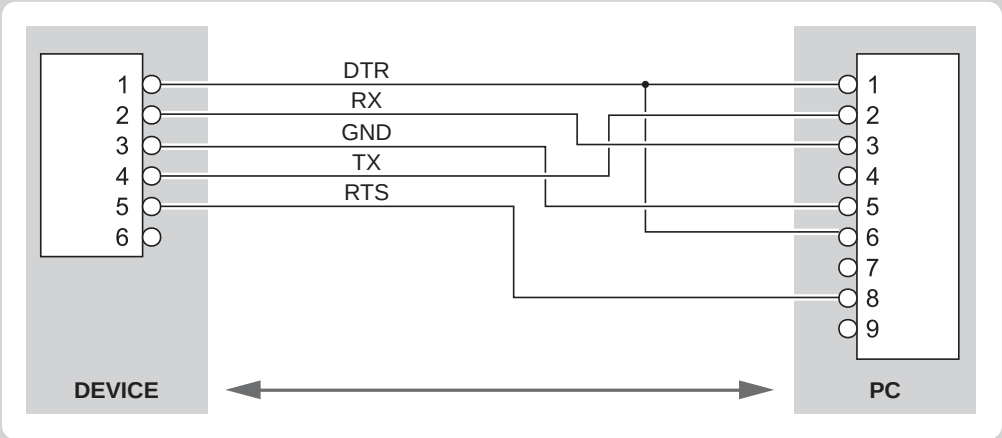
J2	1	USB0-VBUS	(in)
	2	D0 -	(in/out)
	3	D0 +	(in/out)
	4	GND	
	SH1	SHIELD	
	SH2	SHIELD	

SERIAL INTERFACE

Female MICROFIT-6PIN connector *(cable insertion side)*

J1	1	DTR	(out)	Data terminal ready
	2	RX	(in)	Data reception signal
	3	GND		
	4	TX	(out)	Data transmission signal
	5	RTS	(out)	Request to send
	6	n.c.		

NOTE:
Use the adapter cable MICROFIT-6PIN/DB9 (supplied) and a RS232 serial cable to connect the printer to a personal computer. The diagram below illustrate a sample connection between the printer and a PC using a 9-pin female connector.



ATTENTION:
It is recommended to secure with a tie the adapter cable MICROFIT-6PIN/DB9 to a fixed support in order to prevent the connector on control board bears the weight of the cables.

Note: When use a serial cable, we recommend the installation of a ferrite core on the serial cable.

3.4 Driver

The drivers are available for the following operating system:

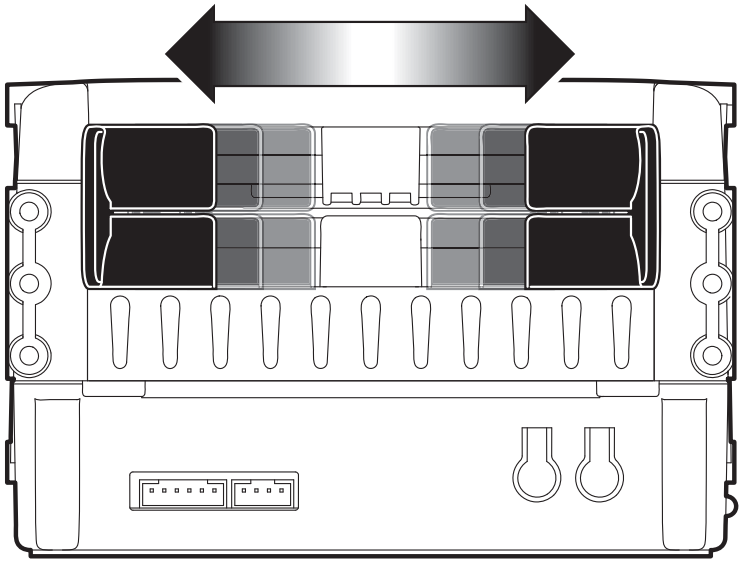
OPERATING SYSTEM	INSTALLATION PROCEDURE
Windows XP	From the START menu, press Enter and key-in the path where the SW was saved on your PC, then click OK. Follow the instructions that appear on the screen to install the driver.
Windows VISTA (32/64bit)	
Windows 7 (32/64bit)	
Opos	
Linux (32/64bit)	Follow the instruction get back on the README.TXT file you can find it in the software package downloaded in advance.

All drivers can be found in the DOWNLOAD section of the web site www.custom.biz.

4 OPERATION

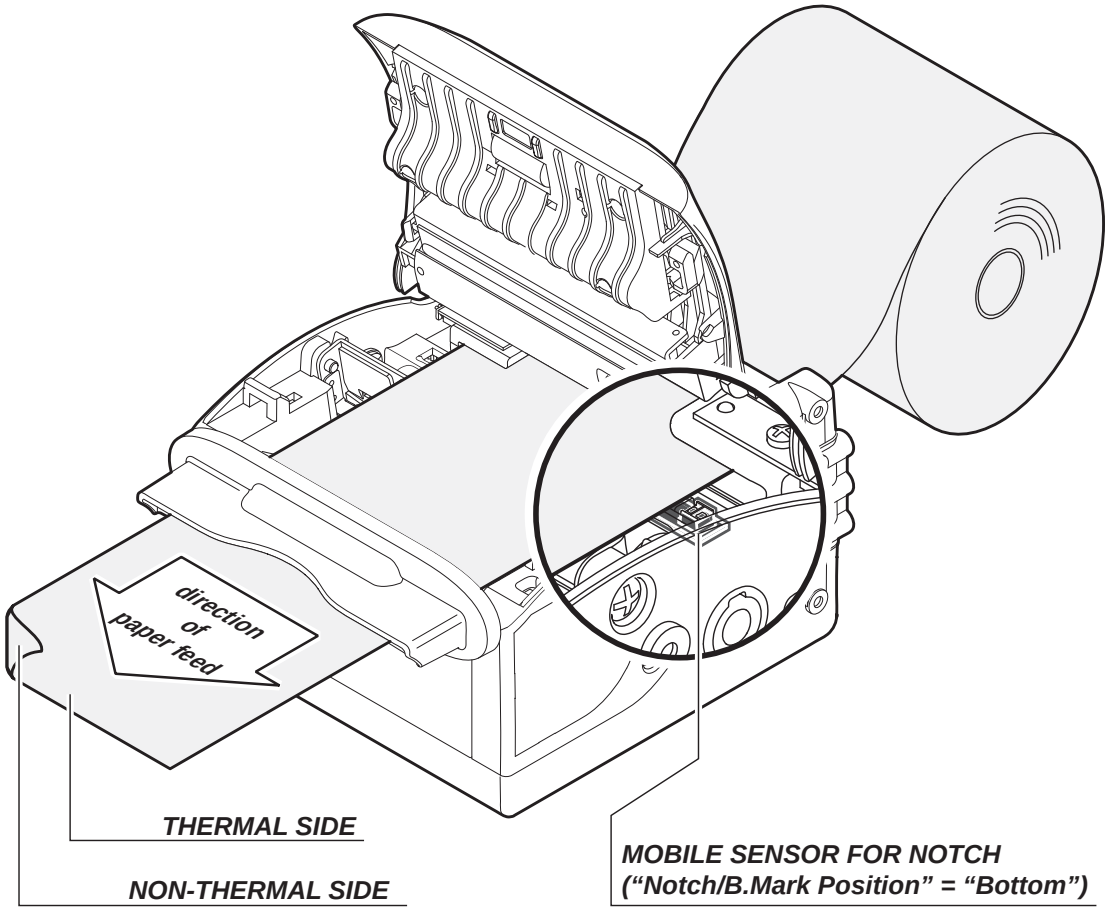
4.1 Adjusting paper width

Paper width may be adjusted from 50mm to 82,5mm using the right and the left cursors located at the paper infeed.

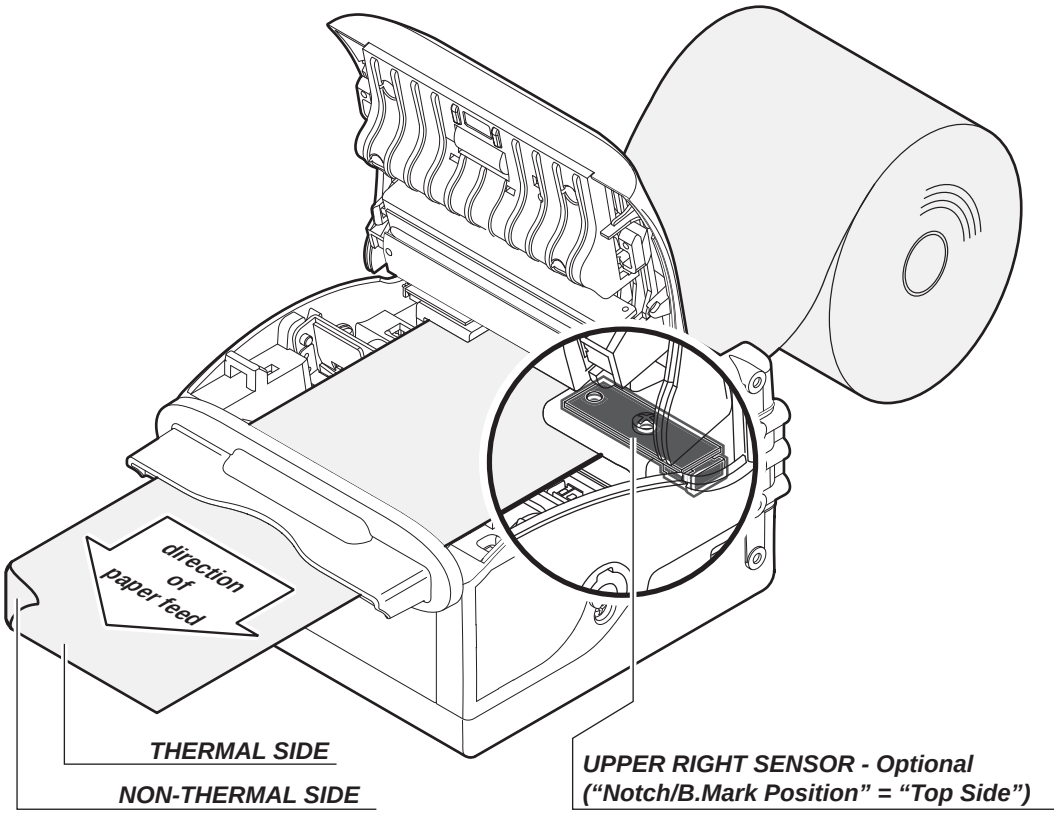


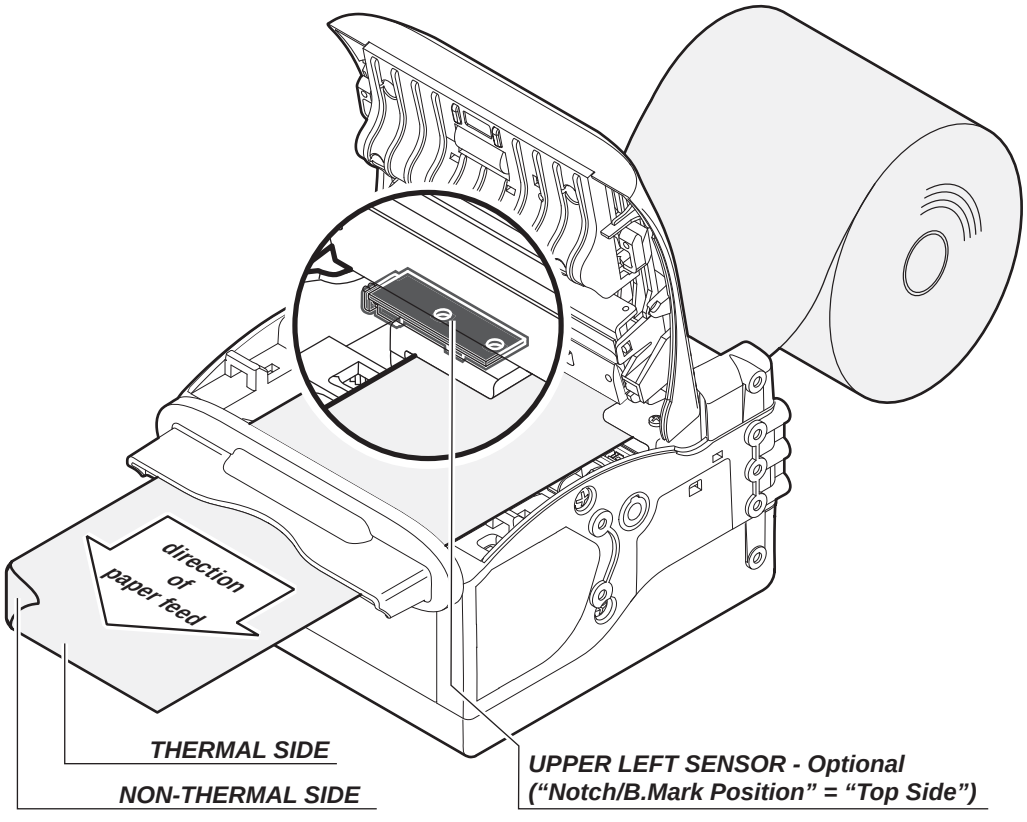
4.2 Adjusting alignment sensors

Printer is provided with a mobile sensor for the detection of alignment notch placed on the non-thermal side of paper (located lower than the plane of the paper inside the printer).
The device user will need to manually move this mobile sensor according to the position of the notch on the paper (see next sections).
To use this sensor for notch detection, you must set the “Notch/B.Mark Position” setup parameter on the “Bottom” value (see Chapter 5).



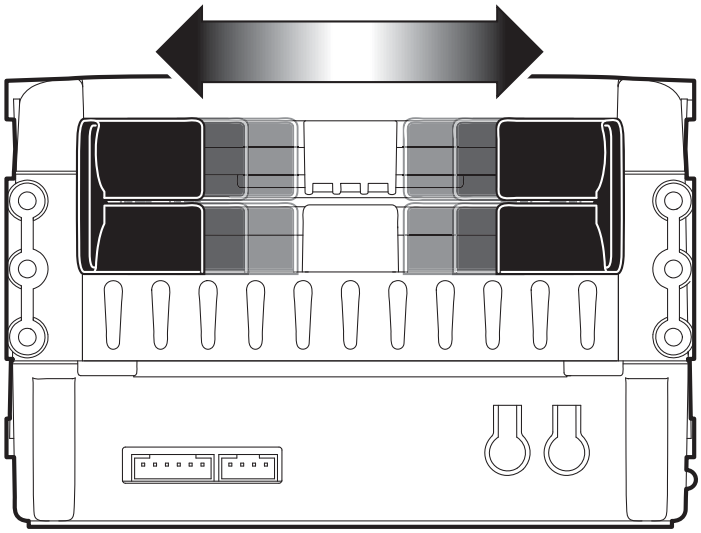
In addition, the printer can be optionally equipped with a sensor for alignment notch placed on the thermal side of paper (located upper than the plane of the paper inside the printer).
This optional sensor can be placed on the left cursor or on the right cursor of the paper infeed. The sensor position is adjusted by moving the paper infeed cursors during the paper width adjusting.
To use this sensor for notch detection, you must set the “Notch/B.Mark Position” setup parameter on the “Top Side” value (see Chapter 5).





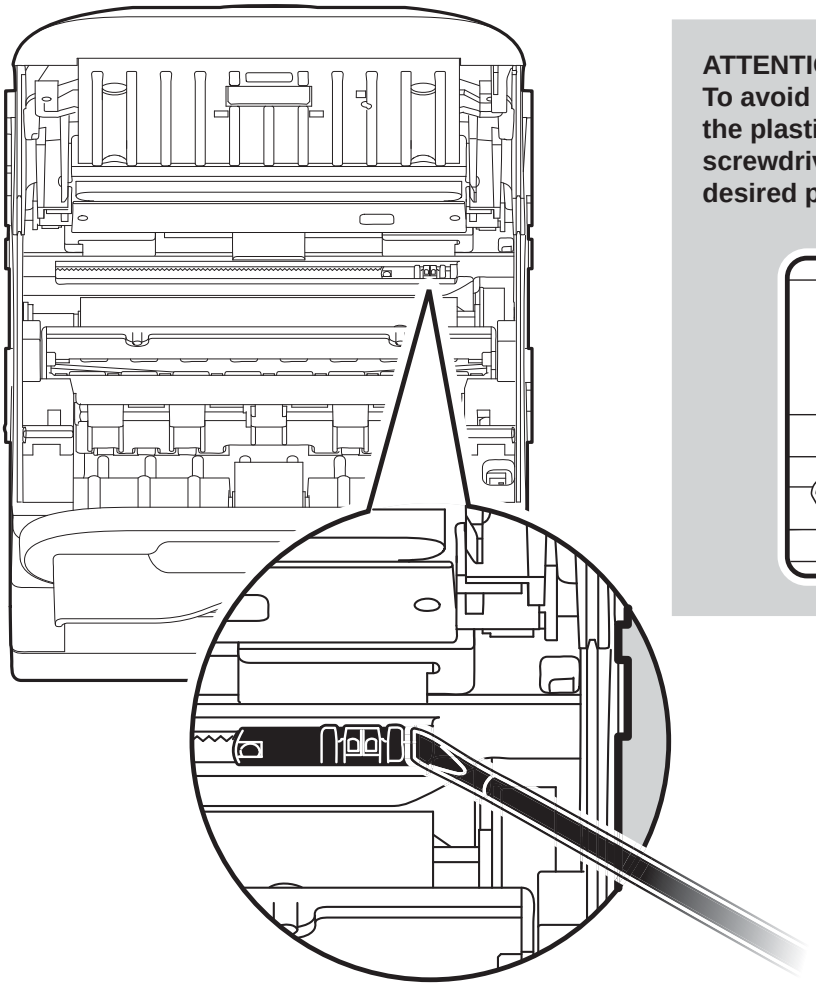
To adjust the mobile sensor position according to the notch position on paper, proceed as follows:

1



Adjust the paper width
(see previous paragraphs)

2



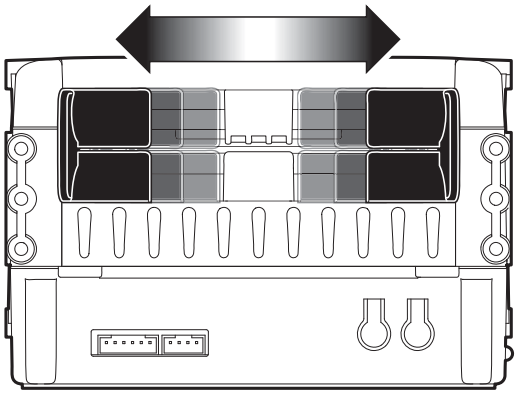
ATTENTION:
To avoid damaging the sensor, use the plastic tabs as foothold for the screwdriver to push the sensor in the desired position.

Move the lower sensor to the desired position
using a small screwdriver or a pointed object

4.3 Paper roll insertion

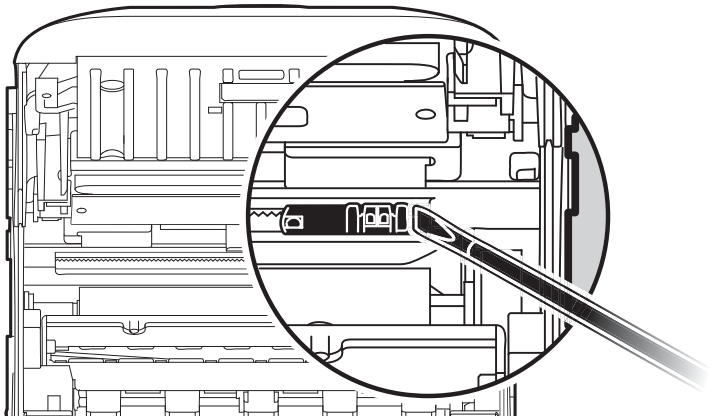
At every change of paper roll, check inside the printer. To change the paper roll, proceed as follows:

1



Adjust the paper width
(see previous paragraphs)

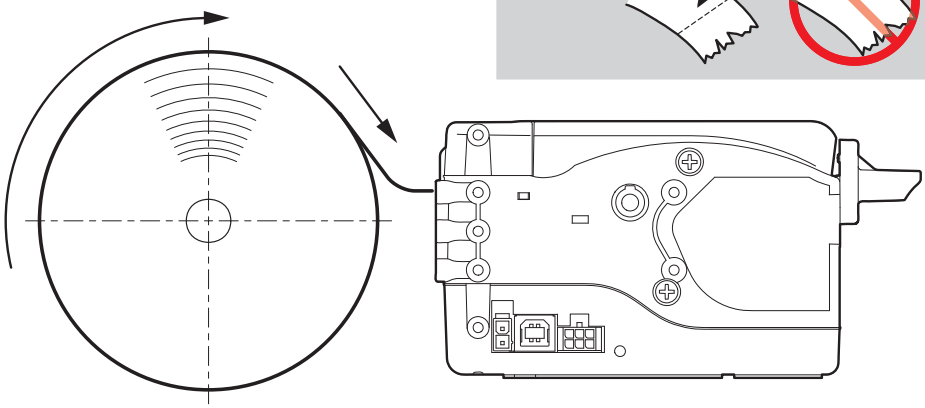
2



Adjust the notch sensor position
(see previous paragraphs)

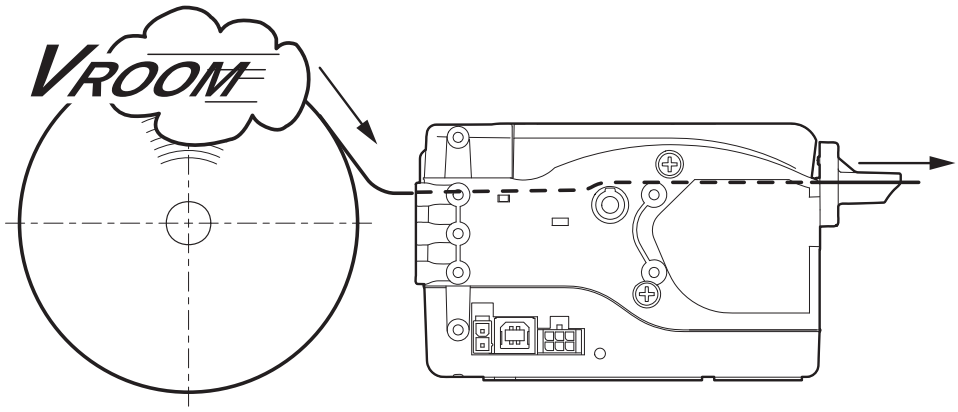
3

ATTENTION:
Make sure the cut is straight.



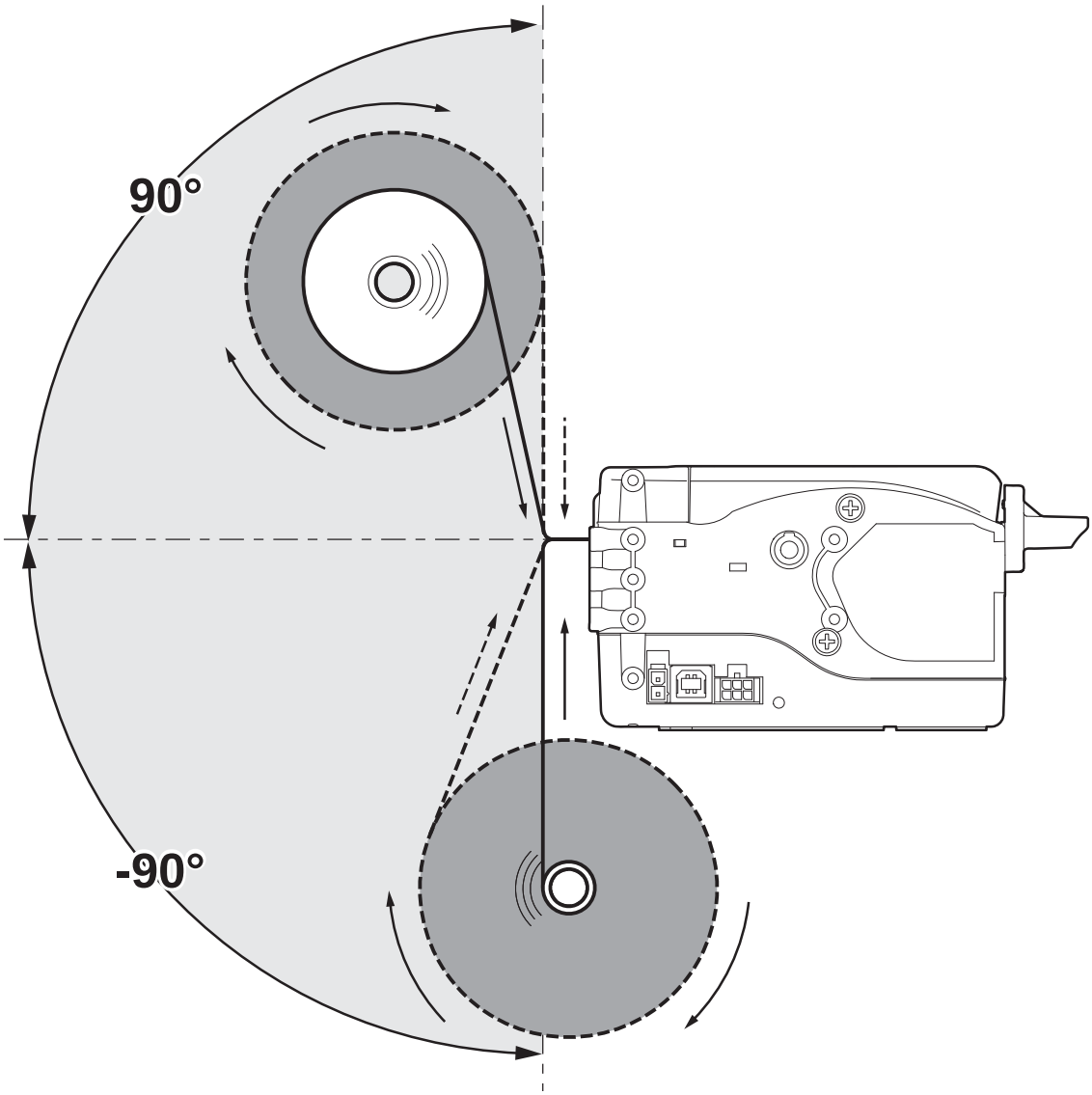
Position the paper roll,
so that it unrolls correctly as shown in figure

4



Inserire la carta nella bocca di ingresso carta ed attendere il caricamento automatico.

The following figure gives the limit positions of the paper roll related to the printer for a correct paper loading without a paper roll holder support.
The direction of the paper will always form a maximum angle of 90 ° or -90 ° with the insertion plane of paper inside the printer.

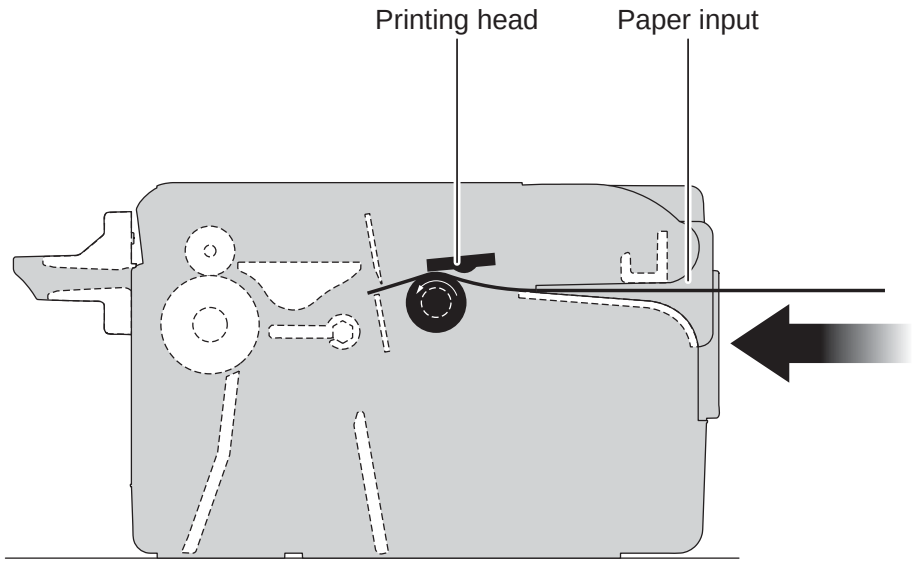


4.4 Issuing ticket

The printer allows you to choose between different operating modes for the issuance of printed tickets.
The operating modes shown in the following images, depend on the settings of the configuration parameters and commands sent to the printer.

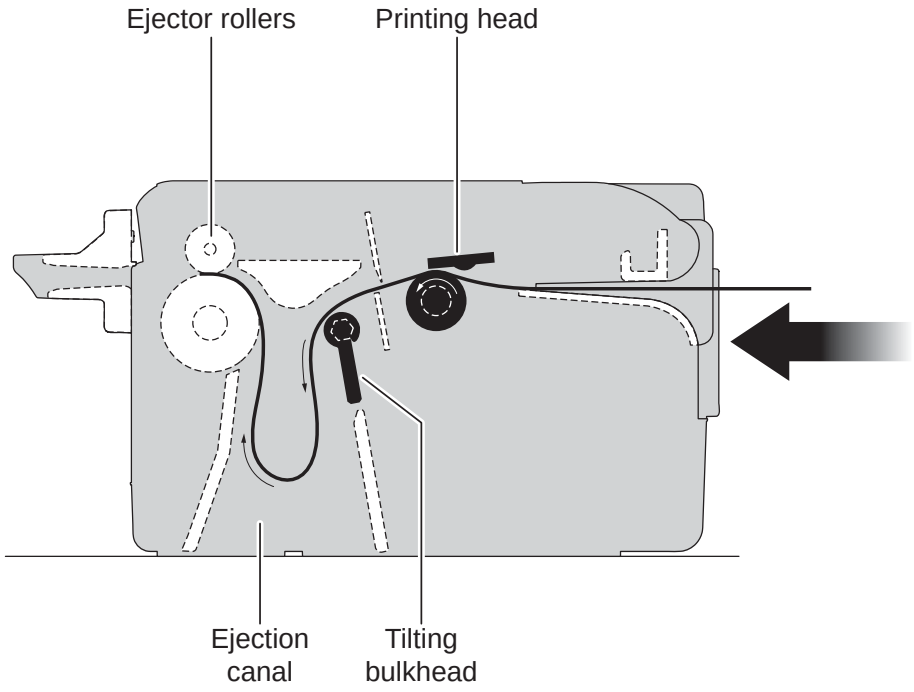
"EJECT" MODE

1



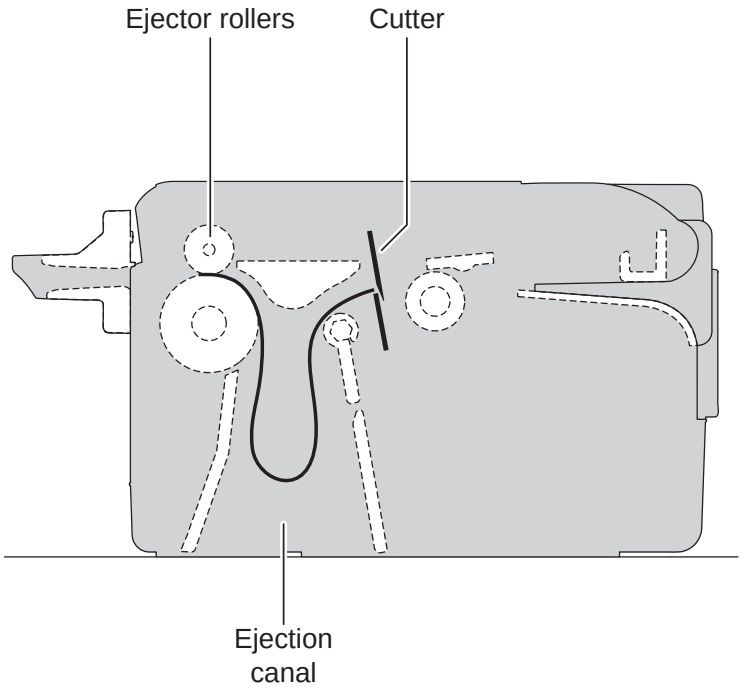
The device starts the ticket printing

2



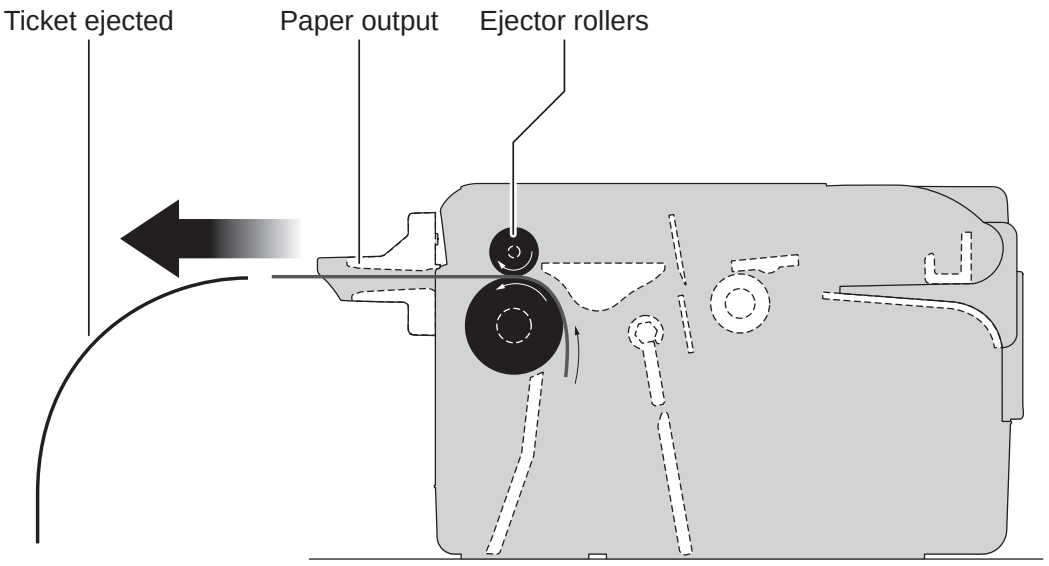
The ticket advances ahead to the ejector and is caught between the ejector rollers.
The printed part of ticket is collected into the ejection canal
while the device continues printing

3



When printing ends, the device cuts the ticket printed

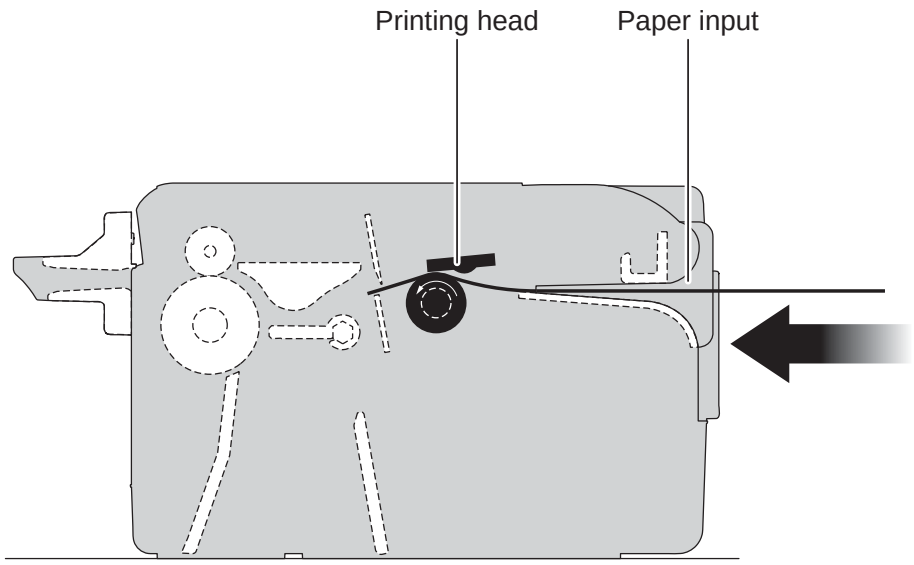
4



The device directly ejects the ticket

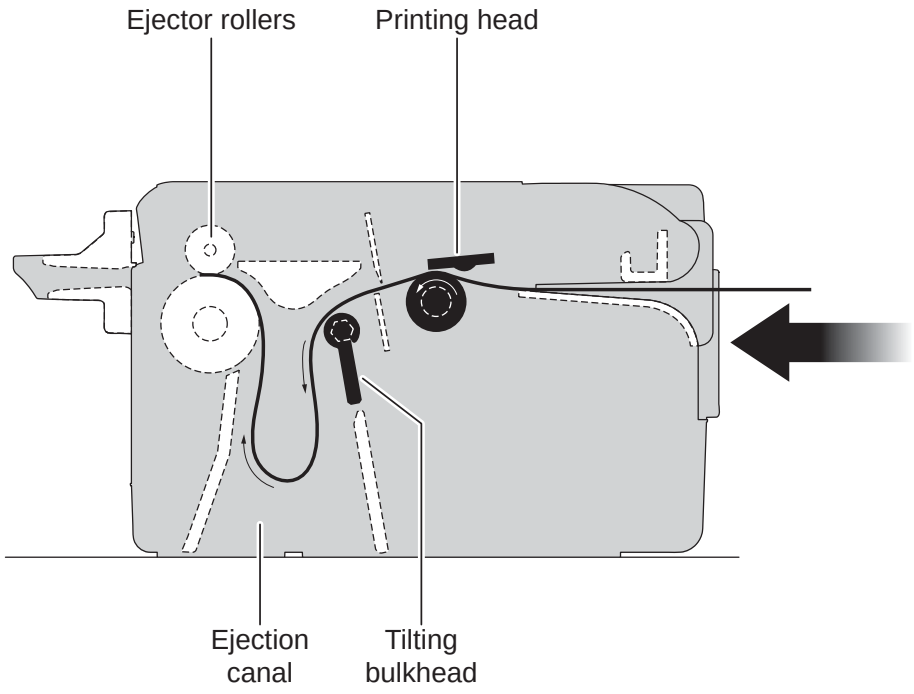
"PRESENT" MODE

1



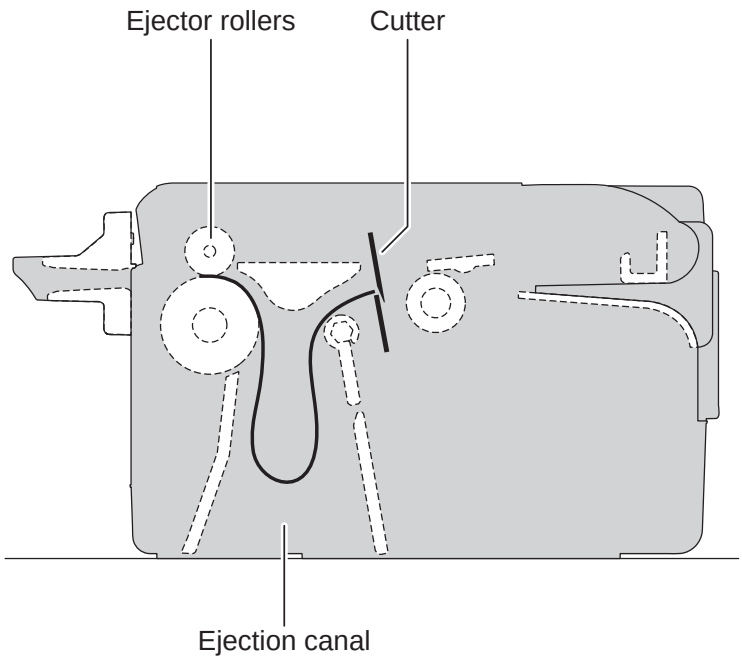
The device starts the ticket printing

2



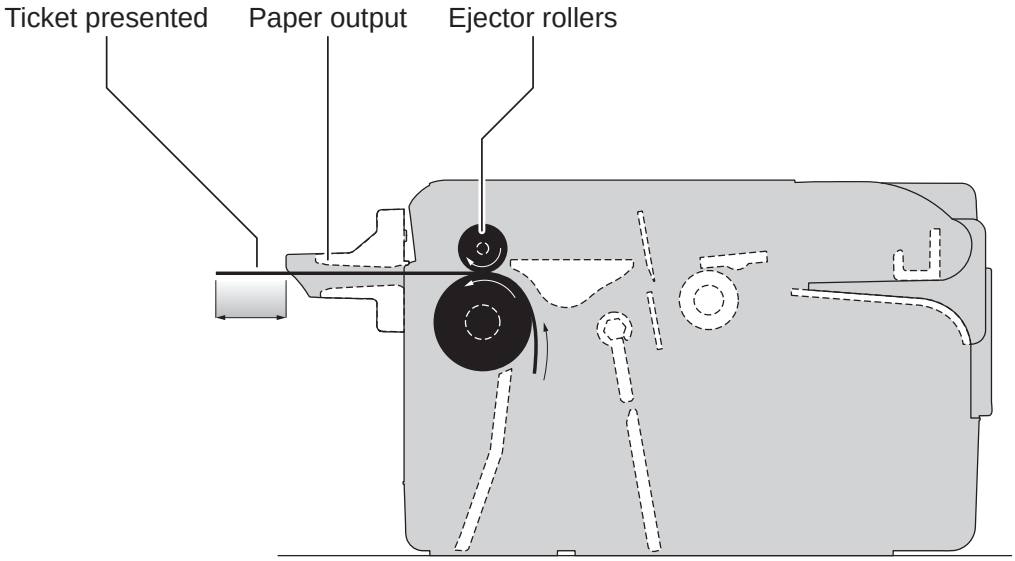
The ticket advances ahead to the ejector and is caught between the ejector rollers.
The printed part of ticket is collected into the ejection canal
while the device continues printing

3



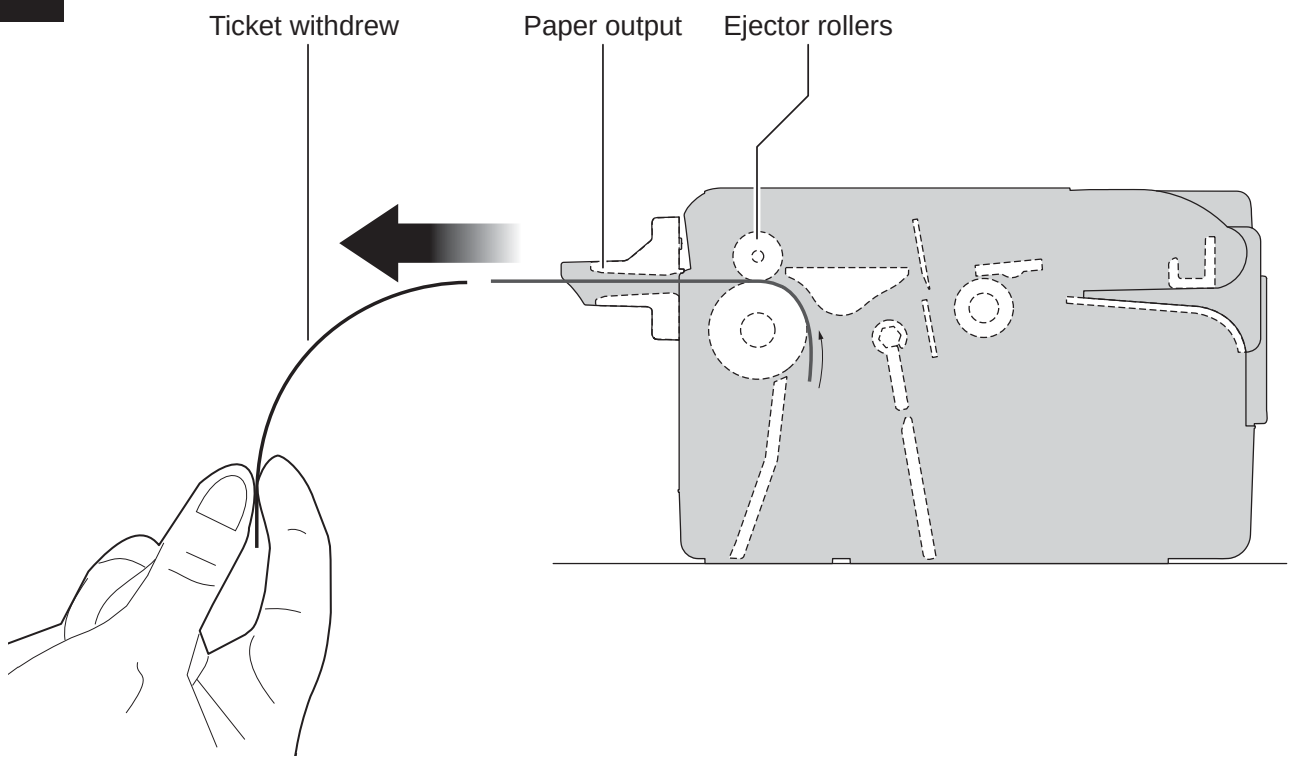
When printing ends, the device cuts the ticket printed

4



The device presents a portion of the ticket printed on the paper mouth

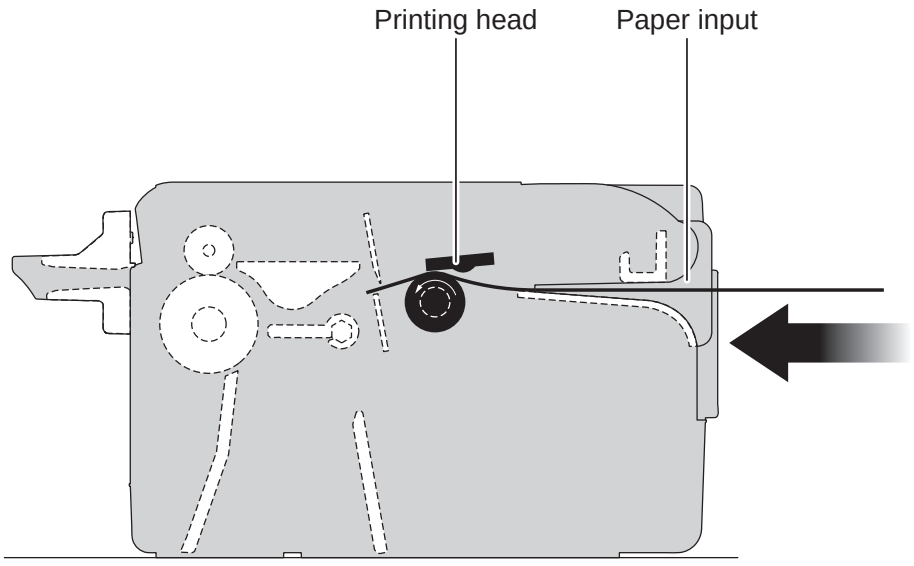
4



The user withdraw the ticket from the paper mouth

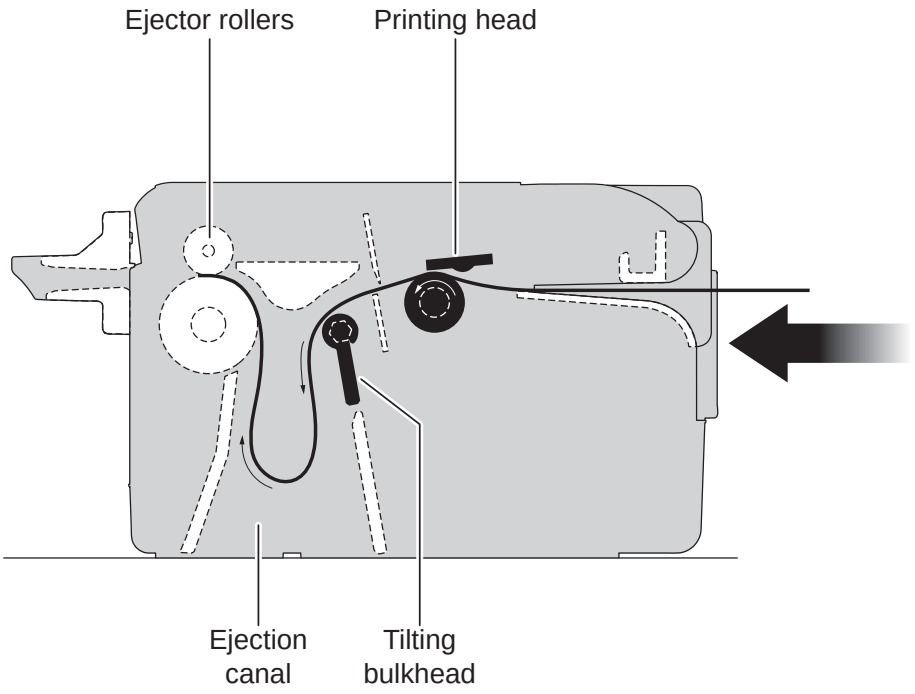
“PRESENT / RETRACT” MODE

1



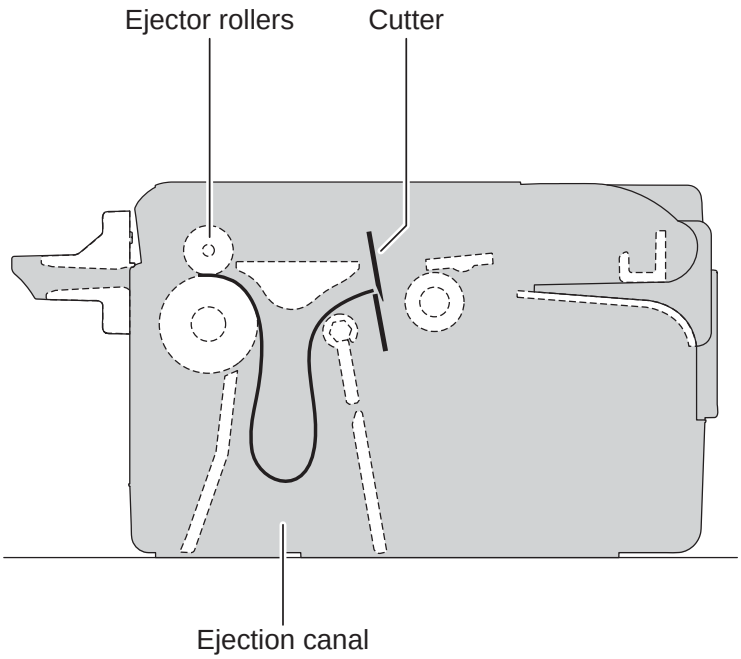
The device starts the ticket printing

2



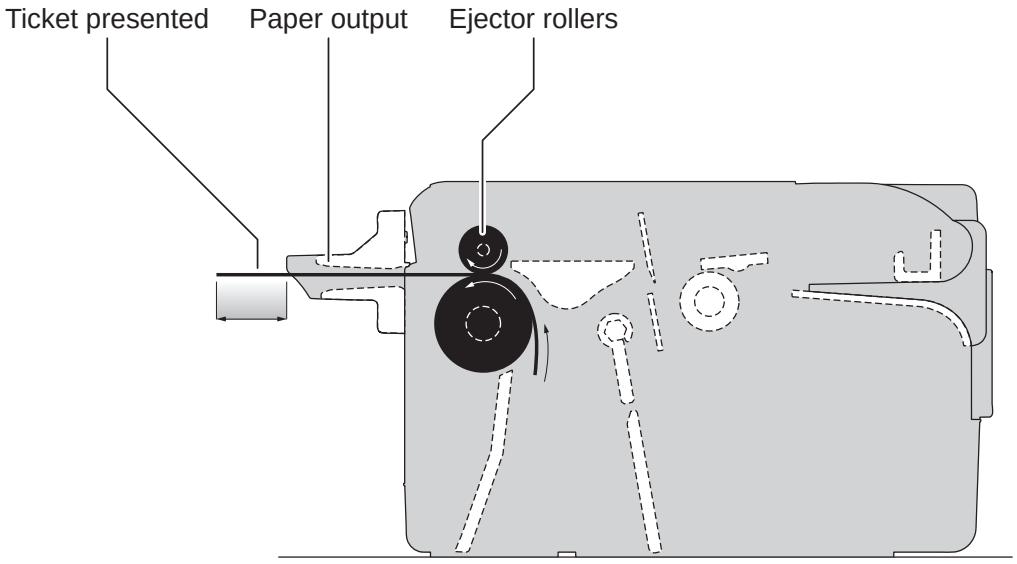
The ticket advances ahead to the ejector and is caught between the ejector rollers.
The printed part of ticket is collected into the ejection canal
while the device continues printing

3



When printing ends, the device cuts the ticket printed

4

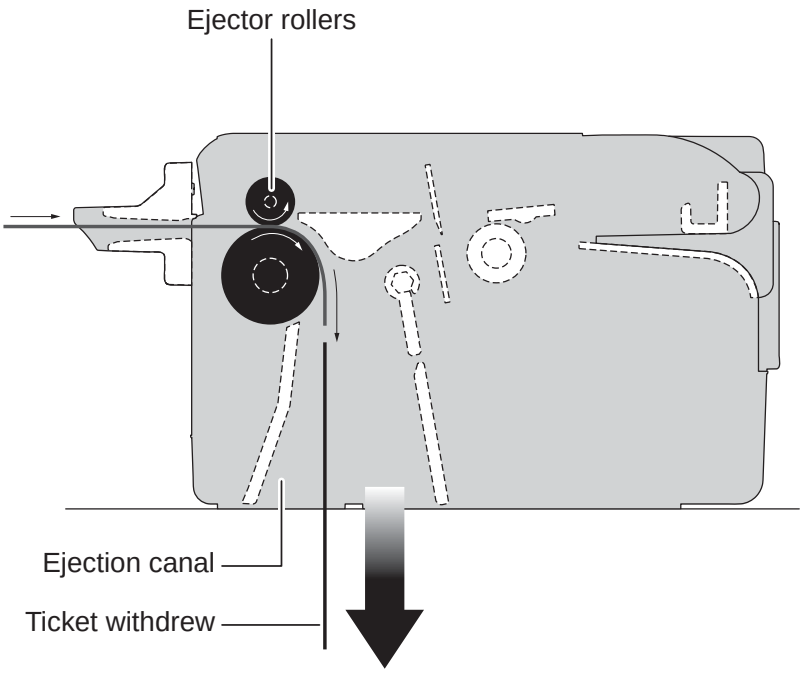


The device presents a portion of the ticket printed on the paper mouth

5

The ticket is waiting on the paper mouth for a preset period of time

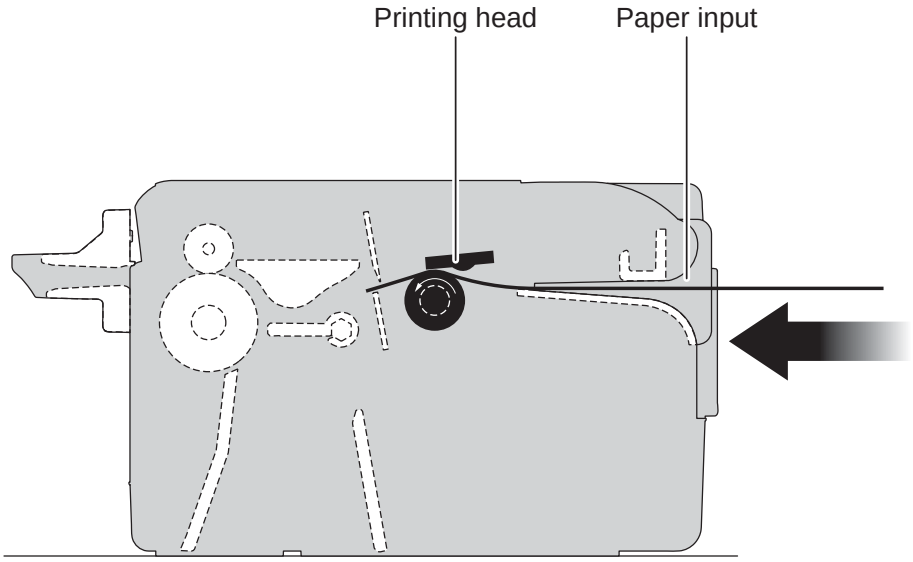
6



The device retracts and collects the ticket from the mouth paper

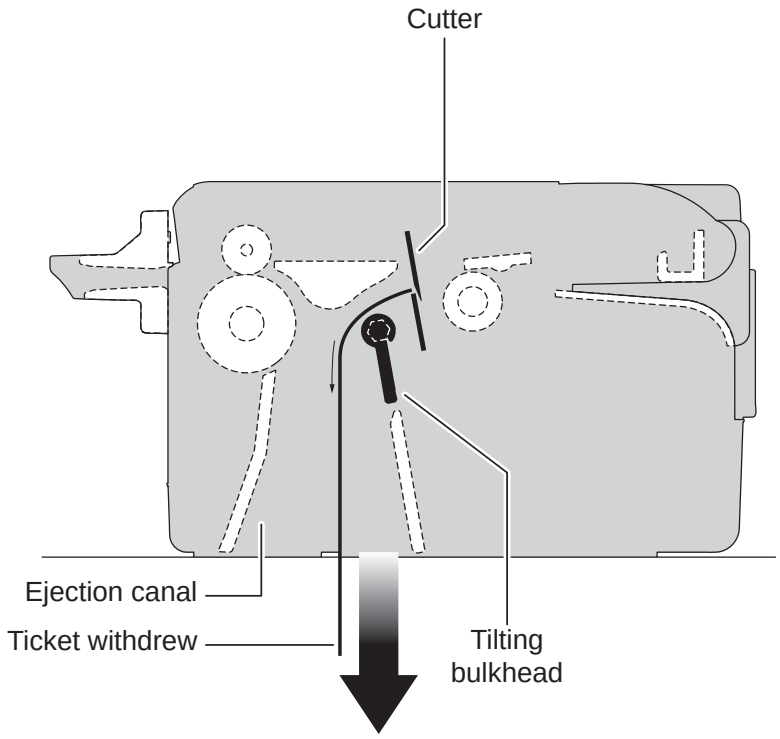
"COLLECT" MODE

1



The device starts the ticket printing

2



When printing ends, the device cuts and collects the ticket printed without presenting it on the paper mouth

NOTE: For further information, refer to Chapter 5 and to the Commands Manual.

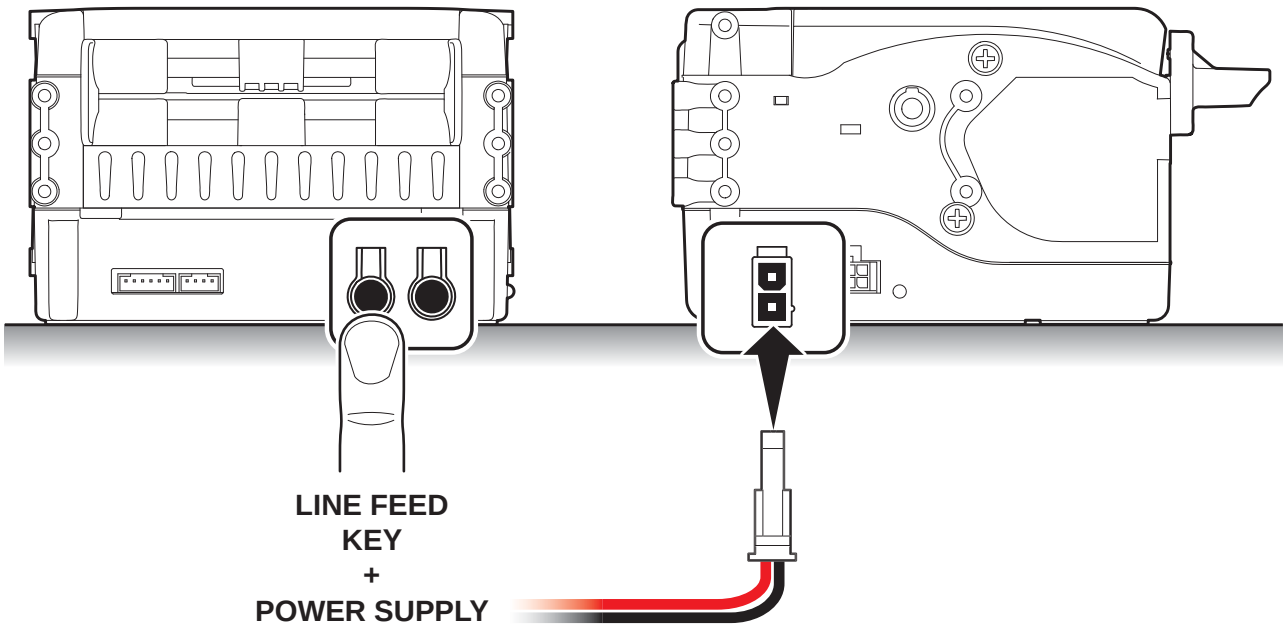
5 CONFIGURATION

5.1 Configuration mode

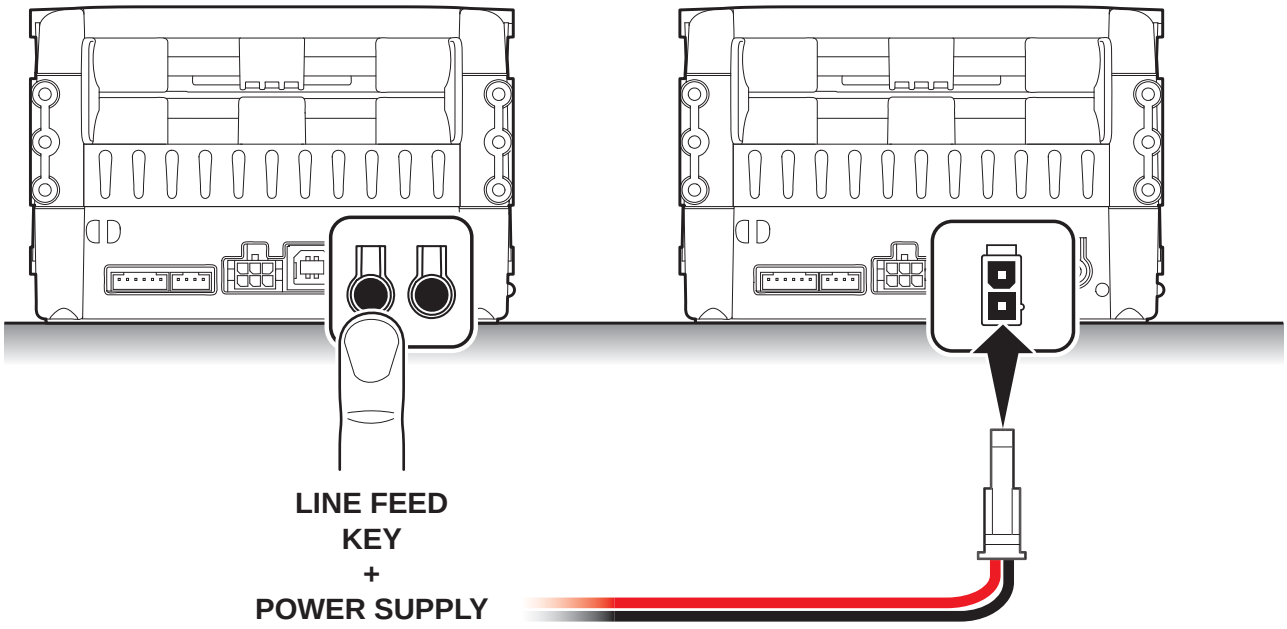
To enter the configuration mode and print a SETUP report with the operating parameters of the printer, proceed as follows.

1

model with lateral connector

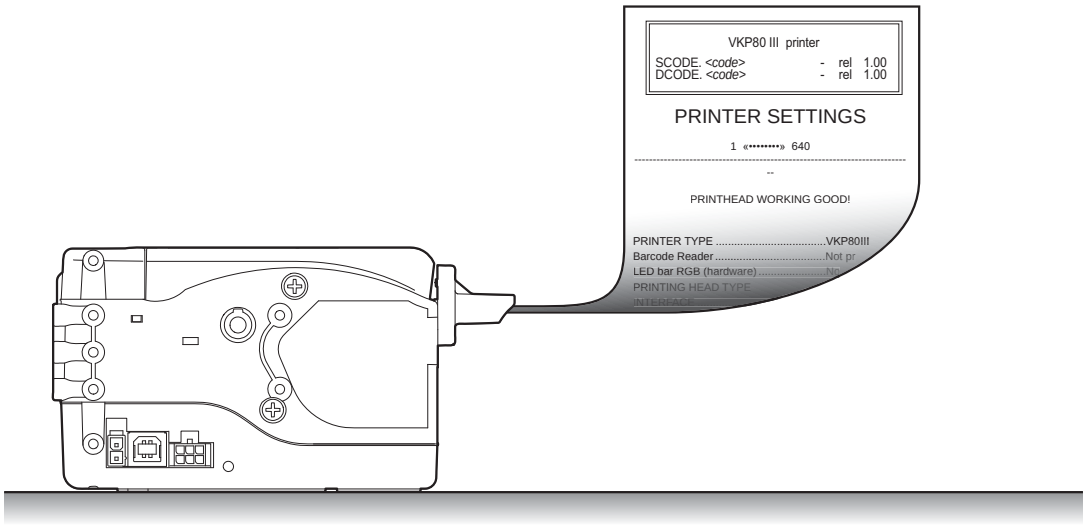


model with rear connector



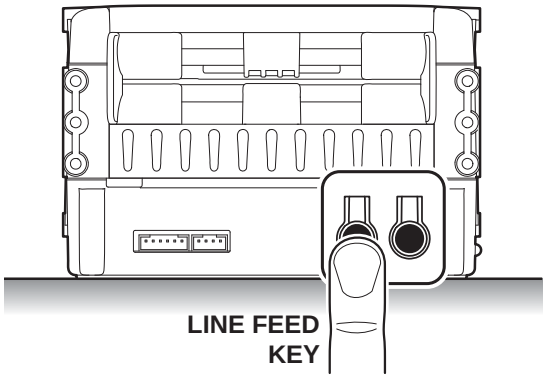
During power-up, hold down the LINE FEED key
while the wiring is plugged into the power supply connector of the printer.

2



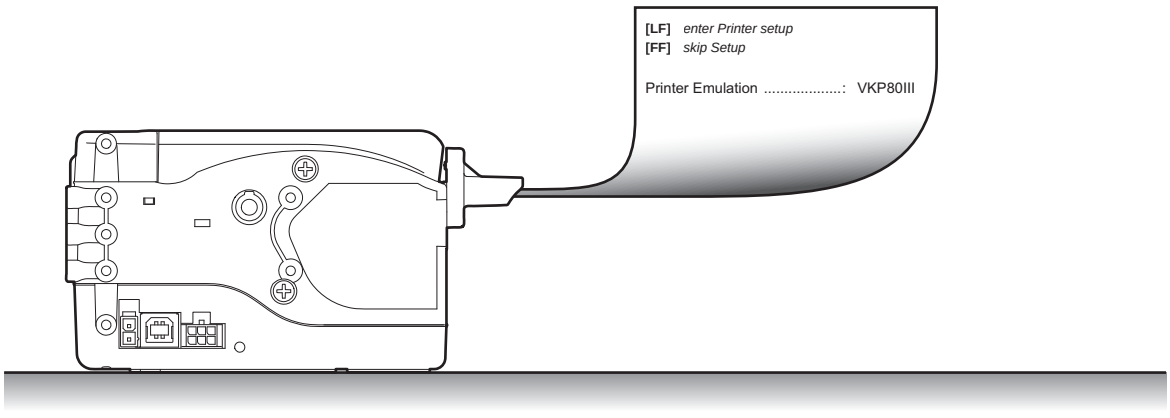
The device prints a SETUP report.

3



Press the LINE FEED key to enter the configuration mode

4

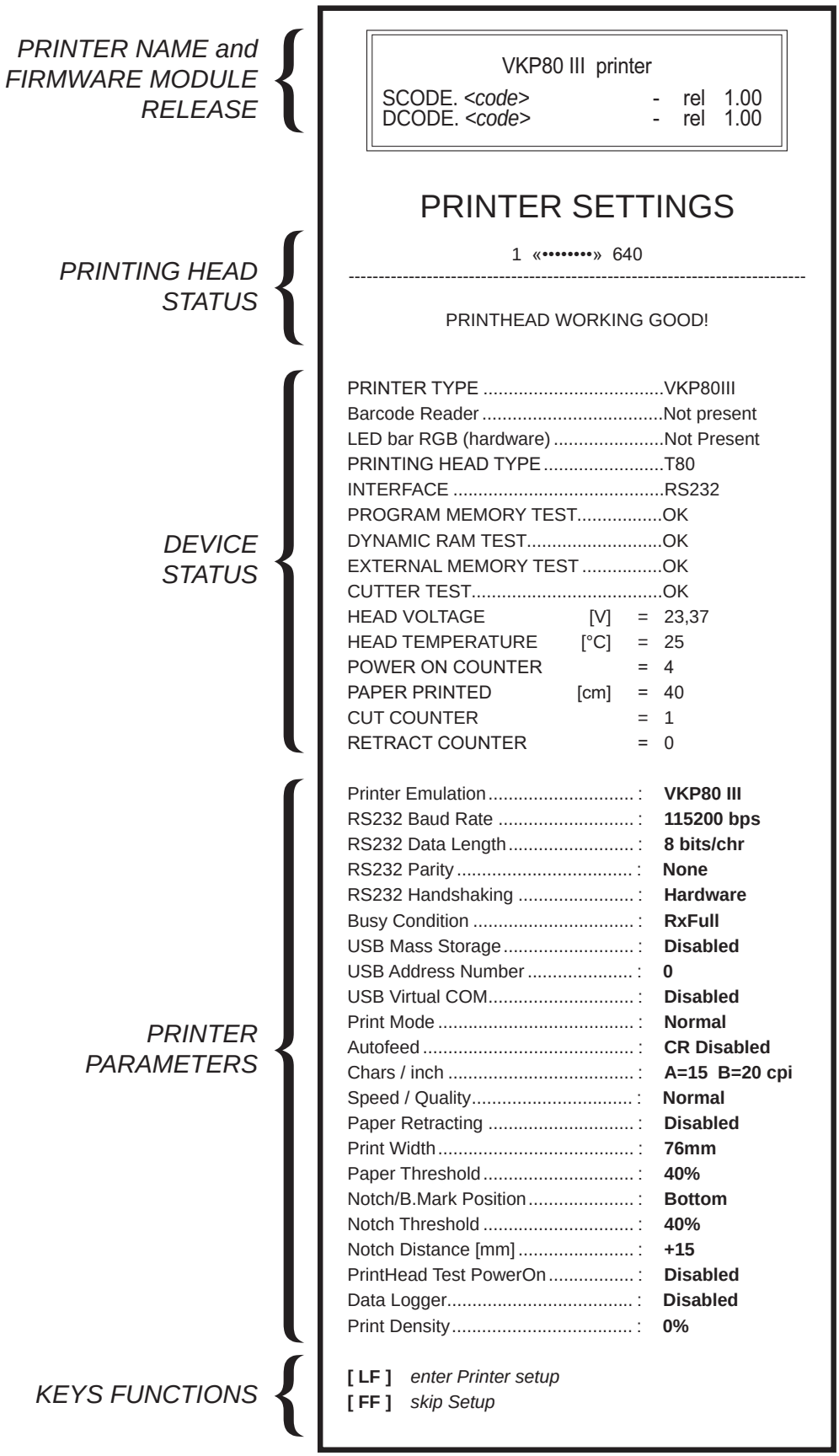


Proceed with the configuration by using the keys according the functions printed on paper (see par.2.3).
For description and values of setup parameters, see the following paragraphs.

NOTE:
During power-up, if the LINE FEED key is held down, the printer enters the auto-test routine and prints out the setup report. The printer will remain in standby in Hexadecimal dump mode (see following paragraphs) until another key is pressed or characters are received through the printer communication port.
When the LINE FEED key is pressed, the printer enters parameter configuration.
When the FORM FEED key is pressed, the printer exits setup and terminates the Hexadecimal dump function.

5.2 Setup report

The following figure shows the setup report of the printer. The shown values for parameters are sample values; for the list and the description of printer parameters see the following paragraphs.


PRINTER NAME and FIRMWARE MODULE RELEASE
PRINTING HEAD STATUS
DEVICE STATUS
PRINTER PARAMETERS
KEYS FUNCTIONS
VKP80 III printer
SCODE. <code> - rel 1.00
DCODE. <code> - rel 1.00
PRINTER SETTINGS
1 «••••••••» 640
PRINTHEAD WORKING GOOD!
PRINTER TYPE VKP80III
Barcode Reader .....Not present
LED bar RGB (hardware) .....Not Present
PRINTING HEAD TYPE T80
INTERFACE RS232
PROGRAM MEMORY TEST.....OK
DYNAMIC RAM TEST.....OK
EXTERNAL MEMORY TEST .....OK
CUTTER TEST.....OK
HEAD VOLTAGE [V] = 23,37
HEAD TEMPERATURE [°C] = 25
POWER ON COUNTER = 4
PAPER PRINTED [cm] = 40
CUT COUNTER = 1
RETRACT COUNTER = 0
Printer Emulation..... : VKP80 III
RS232 Baud Rate ..... : 115200 bps
RS232 Data Length..... : 8 bits/chr
RS232 Parity ..... : None
RS232 Handshaking ..... : Hardware
Busy Condition ..... : RxFull
USB Mass Storage..... : Disabled
USB Address Number ..... : 0
USB Virtual COM..... : Disabled
Print Mode ..... : Normal
Autofeed ..... : CR Disabled
Chars / inch ..... : A=15 B=20 cpi
Speed / Quality..... : Normal
Paper Retracting ..... : Disabled
Print Width..... : 76mm
Paper Threshold..... : 40%
Notch/B.Mark Position..... : Bottom
Notch Threshold ..... : 40%
Notch Distance [mm] ..... : +15
PrintHead Test PowerOn..... : Disabled
Data Logger..... : Disabled
Print Density..... : 0%
[LF] enter Printer setup
[FF] skip Setup

5.3 Printer status

Printer operating status is indicated in the configuration print-out in which, next to the name of the components displayed, the following information is given:

PRINTER TYPE	*is given the device model*
BARCODE READER	*is given the presence of the barcode reader*
LED BAR RGB (hardware)	*is given the presence of the board for managing the RGB led bar*
PRINTING HEAD TYPE	*is given the printing head model*
INTERFACE	*is given the interface present*
PROGRAM MEMORY TEST	*the message OK appears if functioning and NOT OK if faulty.*
DYNAMIC RAM TEST	*the message OK appears if functioning and NOT OK if faulty.*
EXTERNAL MEMORY TEST	*the message OK appears if functioning and NOT OK if faulty.*
CUTTER TEST	*the message OK appears if functioning and NOT OK if faulty.*
HEAD VOLTAGE	*is given the voltage of the head.*
HEAD TEMPERATURE	*is given the temperature of the head.*
POWER ON COUNTER	*is given the number of power-ups made*
PAPER PRINTED	*is given the number of centimetres of paper printed.*
CUT COUNTER	*is given the number of cuts made.*
RETRACT COUNTER	*is given the number of “retract” made*

5.4 Printer parameters

This printer allows the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the printer has been turned off and they are stored in non-volatile memory.

PRINTER EMULATION	*Available emulations for the device:* *VKP80III [D]* *VKP80II*
RS232 BAUD RATE	*Communication speed of the serial interface:* *115200 [D] 19200 2400* *57600 9600 1200* *38400 4800* **NOTE:** Parameter valid only with serial interface.
RS232 DATA LENGTH	*Number of bit used for characters encoding:* *7 bits/car* *8 bits/car [D]* **NOTE:** Parameter valid only with serial interface.
RS232 PARITY	*Bit for the parity control of the serial interface:* *None [D] = parity bit omitted* *Even = even value for parity bit* *Odd = odd value for parity bit* **NOTE:** Parameter valid only with serial interface.
RS232 HANDSHAKING	*Handshaking:* *XON/XOFF = software handshaking* *Hardware [D] = hardware handshaking (CTS/RTS)* **NOTE:** Parameter valid only with serial interface. **NOTE:** When the receive buffer is full, if handshaking is set to XON/XOFF, the printer sends the XOFF ($13) on the serial port. When the receive buffer has cleared once again, if handshaking is set to XON/XOFF, the printer sends the XON ($11) on the serial port.
BUSY CONDITION	*Activation mode for Busy signal:* *OffLine/ RXFull = Busy signal is activated when the printer is both in OffLine status and the buffer is full* *RXFull [D] = Busy signal is activated when the buffer is full* **NOTE:** Parameter valid only with serial interface.
USB MASS STORAGE	*Sharing mode from Mass Storage:* *Disabled [D] = sharing mode disabled* *Enabled = sharing mode enabled* **NOTE:** The parameter is printed only with VKP80III emulation enabled
USB ADDRESS NUMBER	*Numerical address code for the univocal identification of the USB device (in case of more than a USB device connected with the same PC):* *0 [D] 2 4 6 8* *1 3 5 7 9*

USB VIRTUAL COM

Setting the USB port as a virtual serial port:

Disabled [D] = Virtual COM disabled
Enabled = Virtual COM enabled

NOTE: The parameter is printed only with VKP80III emulation enabled

PRINT MODE

Printing mode:

Normal [D] = enables printing in normal writing way
Reverse = enables printing rotated 180 degrees

NOTE: The parameter is printed only with VKP80III emulation enabled

AUTOFEED

Setting of the Carriage Return character:

CR disabled [D] =Carriage Return disabled
CR enabled = Carriage Return enabled

CHARS / INCH

Font selection:

A = 11 cpi, B = 15 cpi
A = 15 cpi, B = 20 cpi [D]
A = 20 cpi, B = 15 cpi

NOTA: CPI = Characters Per Inch

SPEED / QUALITY

Setting of printing speed and printing quality:

High Quality
Normal [D]
High Speed

PAPER RETRACTING

Setting of the "retract" function of the paper, with paper presence on ejector during power-up:

Disabled [D] = "retract" function disabled
Enabled = "retract" function enabled

NOTE: The parameter is printed only with VKP80II emulation enabled.

PRINT WIDTH

Width of printing area:

48 mm	*58 mm*	*68 mm*	*78 mm*
50 mm	*60 mm*	*70 mm*	*80 mm*
52 mm	*62 mm*	*72 mm*	
54 mm	*64 mm*	*74 mm*	
56 mm	*66 mm*	*76 mm [D]*	

NOTE: The parameter is printed only with VKP80III emulation enabled. With VKP80II emulation enabled, the printing width is fixed to 76mm.

PAPER THRESHOLD

Threshold value (in percent) for the recognition of the presence of paper by the paper presence sensor:

30%	*70%*
40% [D]	*80%*
50%	*90%*
60%	

NOTE: The parameter is printed only with VKP80III emulation enabled.

NOTCH/B.MARK POSITION

Position of the alignment notch and choice of appropriate notch sensor:

Disabled [D] = the notch alignment is not performed
Bottom = the notch position is detected by the lower mobile sensor (the notch can be positioned anywhere across the width of the non-thermal side of paper)
Top Side (*) = the notch position is detected by the upper optional sensor (the notch is located on the thermal side of paper and near the edge of the paper)

NOTE: The "Top Side" value is printed only with VKP80III emulation enabled.

NOTCH THRESHOLD

Threshold value (in percent) for the recognition of the presence of notch by the notch sensor:

30%	*70%*
40% [D]	*80%*
50%	*90%*
60%	

NOTE: If the "Notch Position" parameter is disabled, this parameter is not printed.

NOTCH DISTANCE

"Notch Distance" is the minimum distance (in mm) between the upper edge of ticket and the notch.
The numeric value of the distance is made up with the following four parameters for the setting of three digits (two for the integer part of the number and one for the decimal part) and of the sign:

NOTCH DISTANCE SIGN

Sign setting:

+ [D] = positive distance
- = negative distance

NOTCH DISTANCE [mm x 10]

Setting the digit for tens:

0 [D]	*4*	*8*
1	*5*	*9*
2	*6*	
3	*7*	

NOTCH DISTANCE [mm x 1]

Setting the digit for units:

0 [D]	*4*	*8*
1	*5*	*9*
2	*6*	
3	*7*	

NOTCH DISTANCE [mm x .1]

Setting the digit for decimals:

0 [D]	*4*	*8*
1	*5*	*9*
2	*6*	
3	*7*	

NOTE: For example, to set the notch distance to 15 mm, modify the parameters as follows:
Notch Distance Sign = +
Notch Distance [mm x 10] = 1
Notch Distance [mm x 1] = 5
Notch Distance [mm x .1] = 0
NOTE: If the "Notch Position" parameter is disabled, the parameters for the "Notch Distance" are not printed.

PRINTHEAD TEST POWERON	*Setting of the performing of the print head test:* *Disabled [D] = the test is performed only during the printing of the setup report* *Enabled = the test is performed at each power on*
DATA LOGGER	*Setting of the data logger function on the LOG folder on the Flash memory:* *Disabled [D] = data logger function disabled* *Text = the printed text is stored in .txt file* *Graphic = the printed graphic is stored in .bmp file* *Text + Graphic = both text and graphic are stored in .txt and .bmp files* **NOTE:** The parameter is printed only with VKP80III emulation enabled. **NOTE:** The name of the first text file stored will be 00000001.txt; the name of the first graphic file stored will be 00000001.bmp; the file number is incremented automatically, when there is no more space, the oldest files are deleted.
PRINT DENSITY	*Adjusting the printing density:* *-50% -12% +25%* *-37% 0 [D] +37%* *-25% +12% +50%*

5.5 Hexadecimal dump

This function is used to diagnose the characters received through the communication port; the characters are printed out both as hexadecimal codes and ASCII codes.
Once the self-test routine has finished, the printer enters Hexadecimal Dump mode. The printer remains in standby until a key is pressed or characters are received through the communication port. For example, in the 200 dpi model, for every 8 characters received, the hexadecimal and corresponding ASCII codes are printed out (if the characters are underlined, the receive buffer is full). Shown below is an example of a Hexadecimal Dump:

HEXADECIMAL DUMP

```
31 32 33 34 35 36 37 38     12345678
39 30 31 32 33 34 35 36     90123456
37 38 39 75 69 73 64 66     789uisdf
68 6B 6A 73 64 68 66 68     hkjsdhfh
73 64 66 6B 6A 68 73 64     sdfkjhsd
66 73 64 66 6B 68 6A 77     fsdfkhjw
65 69 6F 79 75 77 71 65     eioyuwqe
6F 72 69 75 77 65 72 69     oriuweri
6F 75 77 65 72 69 6F 75     ouweriou
77 65 72 69 6F 75 77 65     weriouwe
72 69 6F 75 77 65 72 68     riouwerh
6B 6C 73 64 66 68 6B 73     klsdfhks
64 66 6B 73 64 66 68 6A     dfksdfhj
73 64 66 6B 6A F2 73 64     sdfkj≥sd
66 6B F2 6A 73 68 64 66     fk≥jshdf
6A 6B 6C 68                 jklh
```

6 MAINTENANCE

6.1 Planning of cleaning operations

The regular cleaning of the device keeps the print quality and extends its life. The following table shows the recommended planning for the cleaning operations.

EVERY ROLL CHANGE	
Printing head	Use isopropyl alcohol
Rollers	Use isopropyl alcohol
EVERY 5 ROLL CHANGES	
Cutter	Use compressed air
Cutter compartment	Use compressed air or tweezers
Paper path	Use compressed air or tweezers
Sensors	Use compressed air
EVERY 6 MONTHS OR AS NEEDED	
Printer case	Use compressed air or a soft cloth

For specific procedures, see the following pages.

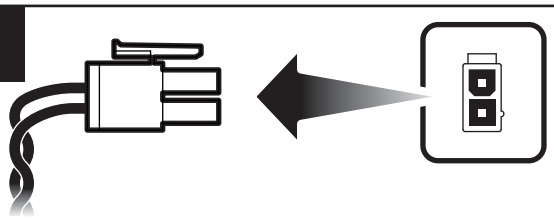
NOTE:
If you use the device in dusty environments, you must reduce the intervals between the cleaning operations.

6.2 Cleaning

For periodic cleaning of the printer, see the instructions below.

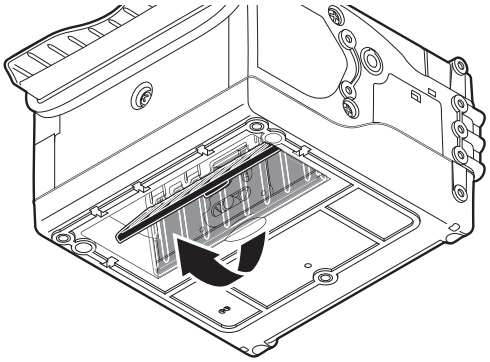
CUTTER COMPARTMENT

1



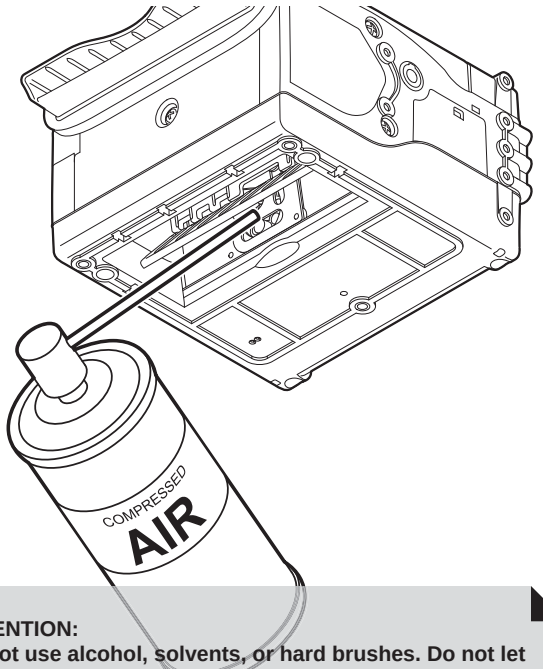
Disconnect the
power supply cable.

2



Lift the magnetic bulkhead
that closes the cutter compartment.

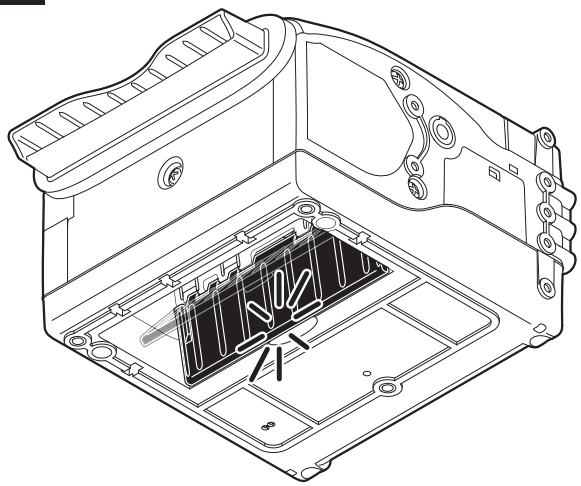
3



ATTENTION:
Do not use alcohol, solvents, or hard brushes. Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Remove any scraps of paper and the accumulated
paper dust from the cutter compartment.

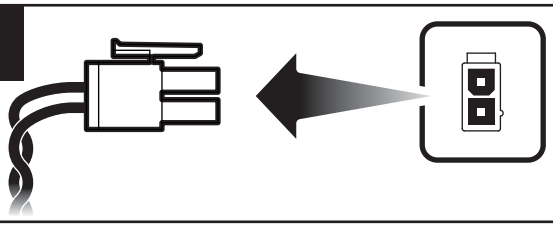
4



Lower the bulkhead
to close the cutter compartment.

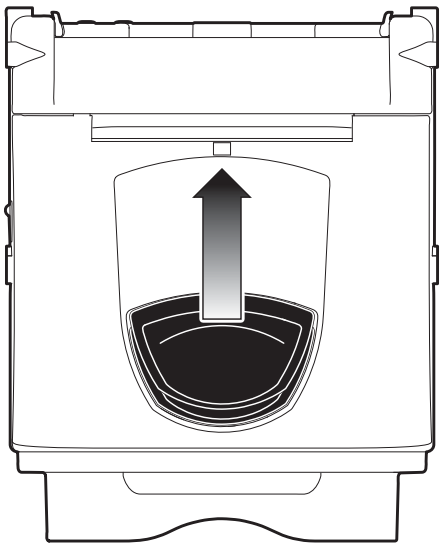
CUTTER

1



Disconnect the
power supply cable.

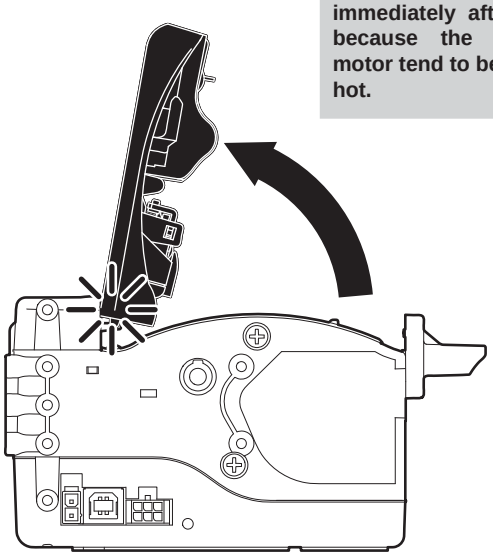
2



Unhook the printer cover
by using the opening lever.

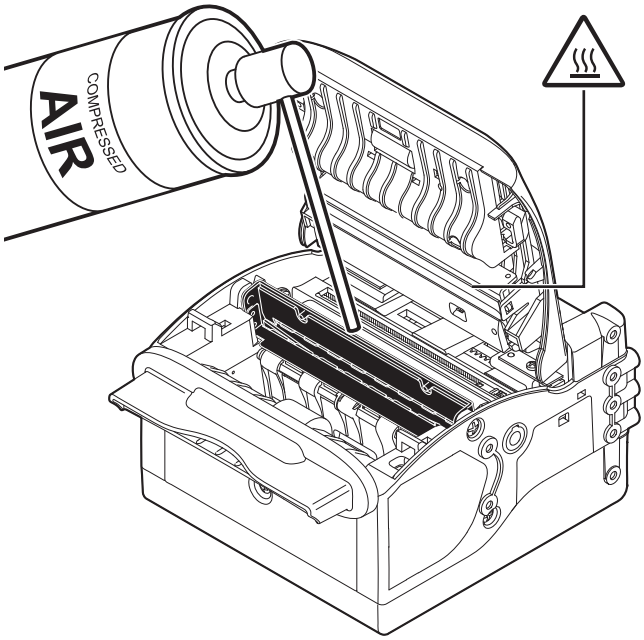
3

ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.



Open the printer cover
to the lock position.

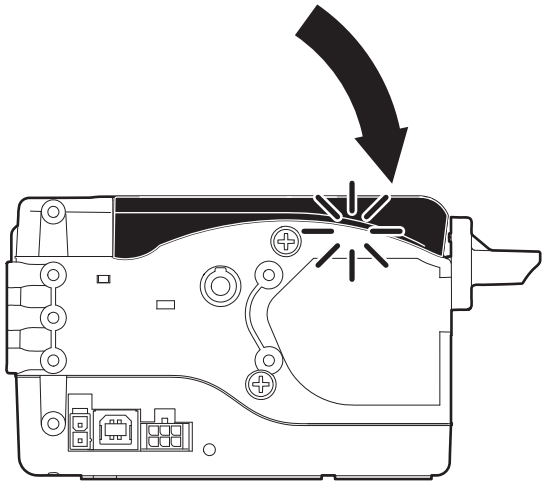
4



ATTENTION:
Do not use alcohol, solvents, or hard brushes. Do not let water or other liquids get inside the machine.

Clean the cutter
by using compressed air.

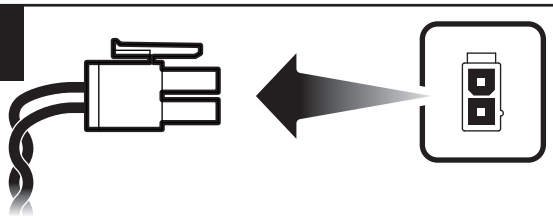
5



Close the printer cover.

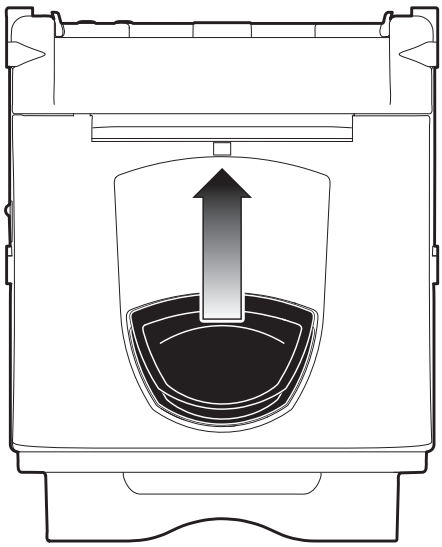
SENSORS

1



Disconnect the
power supply cable.

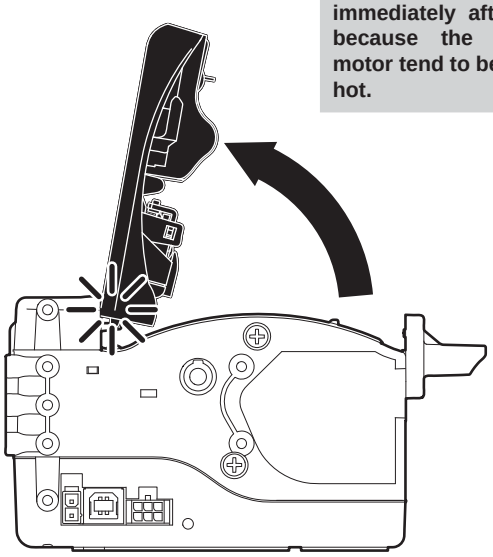
2



Unhook the printer cover
by using the opening lever.

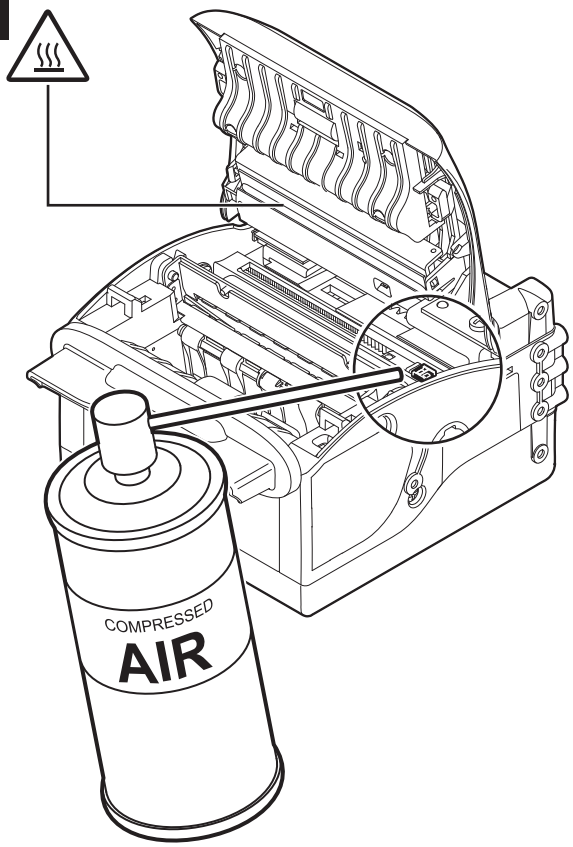
3

ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.



Open the printer cover
to the lock position.

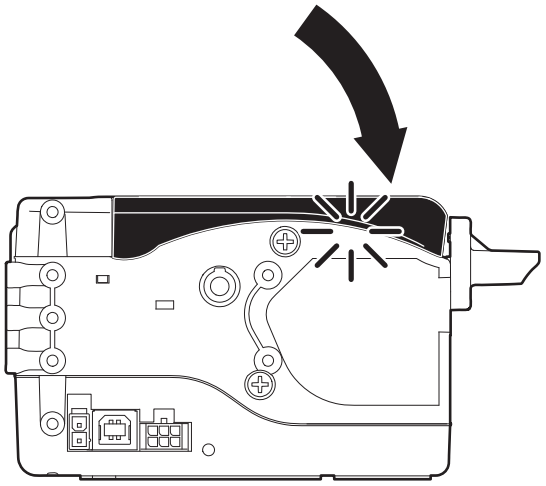
4



ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Carefully clean the printer sensors (see par.2.2)
by using compressed air.

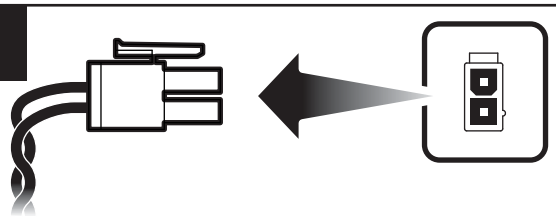
5



Close the printer cover

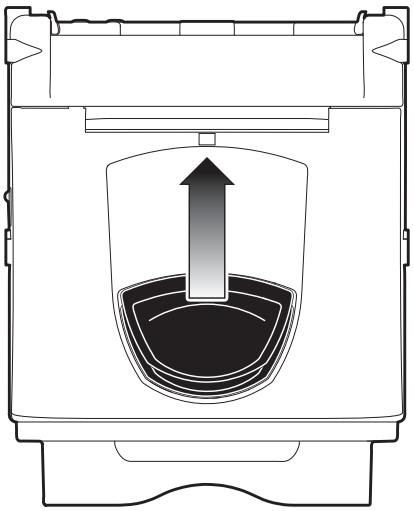
PAPER PATH

1



Disconnect the
power supply cable.

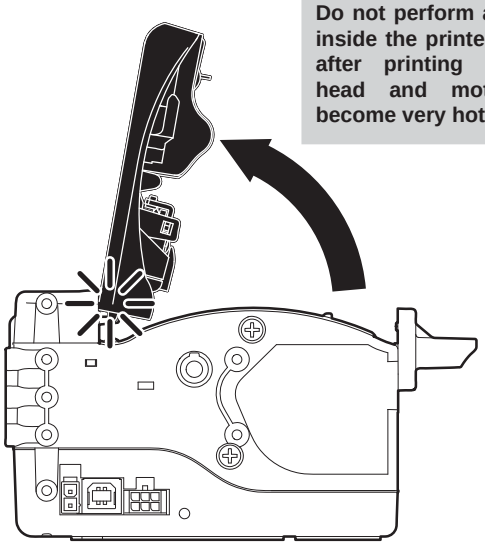
2



Unhook the printer cover
by using the opening lever.

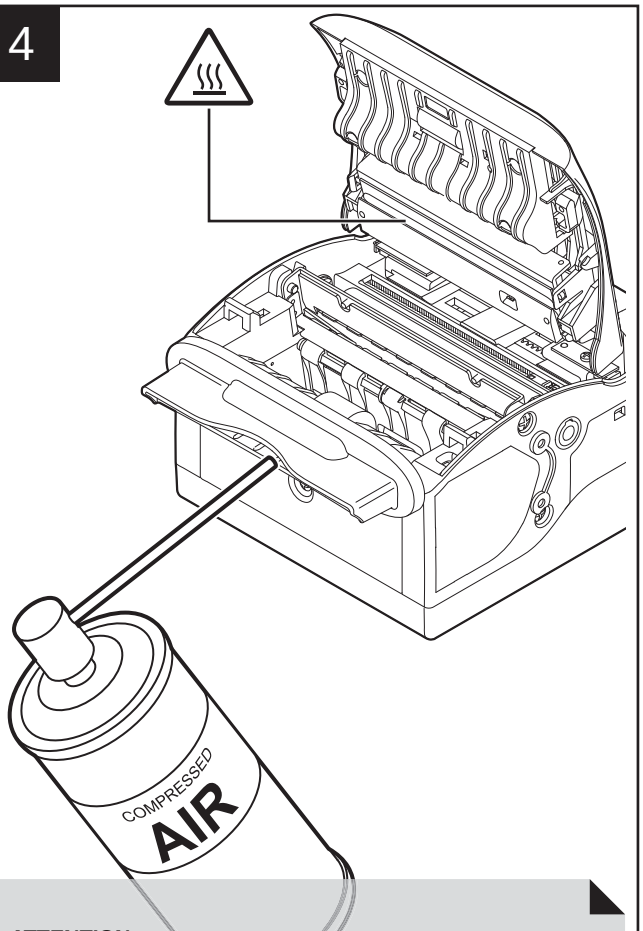
3

ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.



Open the printer cover
to the lock position.

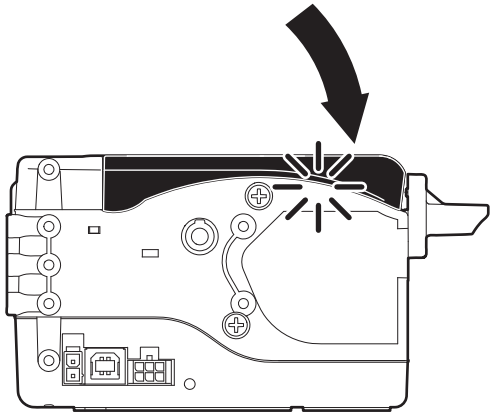
4



ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Remove any scraps of paper and the accumulated paper dust on the paper mouths, on the printing roller, on the cutter and on the area around the sensors.

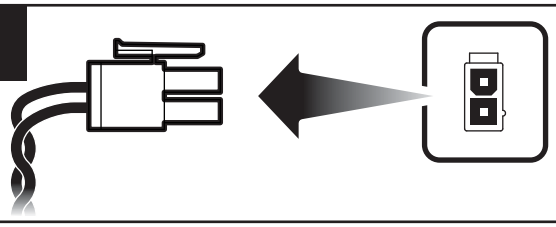
5



Close the printer cover

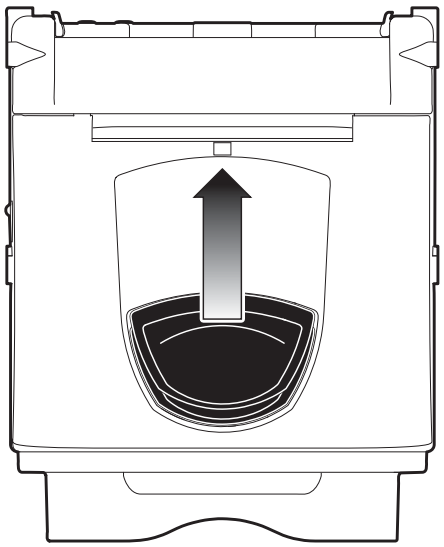
PRINTING HEAD

1



Disconnect the
power supply cable.

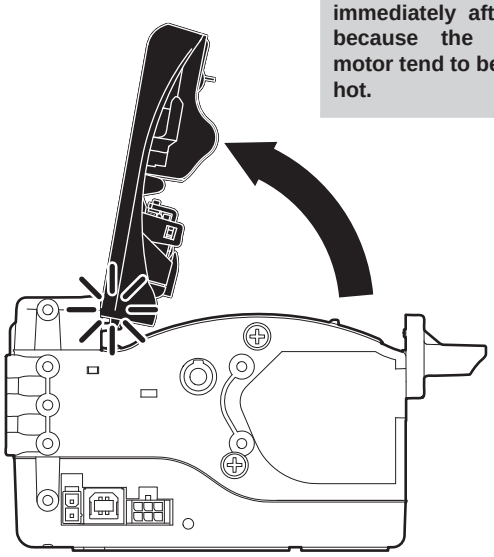
2



Unhook the printer cover
by using the opening lever.

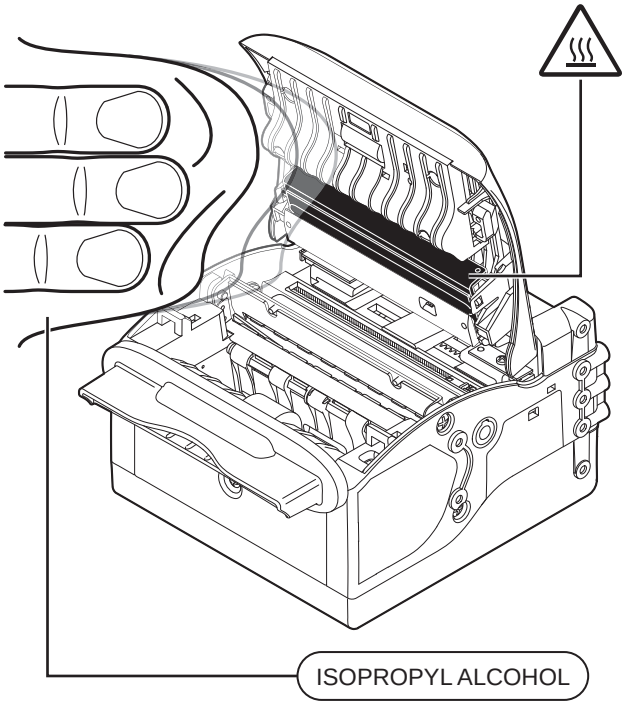
3

ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.



Open the printer cover to the lock position.

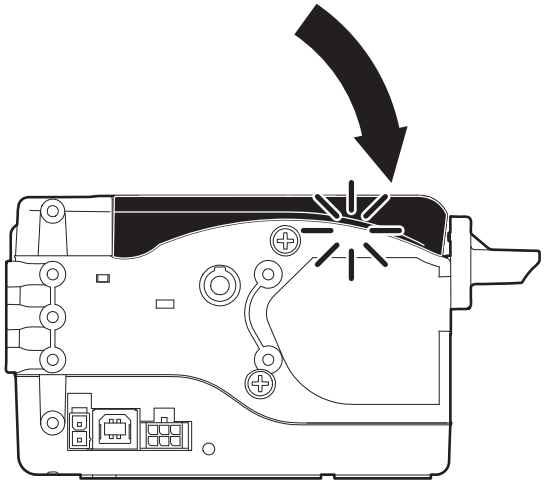
4



ATTENTION:
Do not use alcohol or hard brushes.
Do not let water or other liquids get inside the machine..

Clean the printing head by using
a non-abrasive cloth moistened with isopropyl.

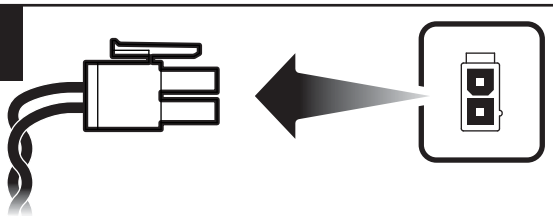
5



Close the printer cover

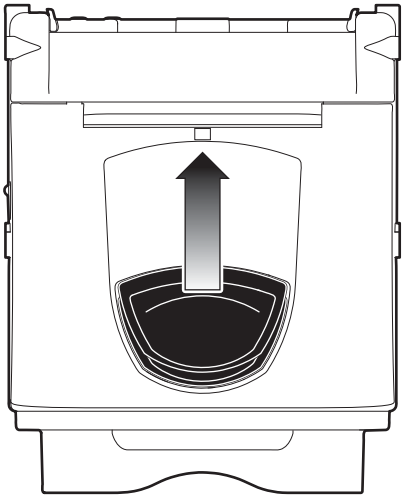
ROLLERS

1



Disconnect the
power supply cable

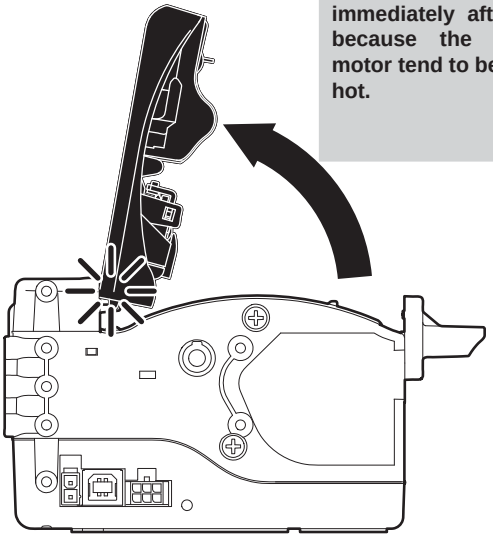
2



Unhook the printer cover
by using the opening lever

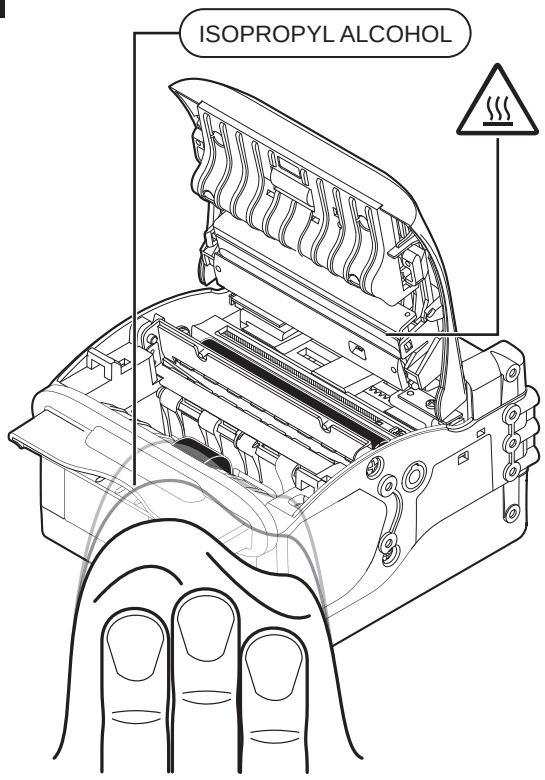
3

ATTENTION:
Do not touch the head heating line with bare hands or metal objects.
Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.



Open the printer cover to the lock position

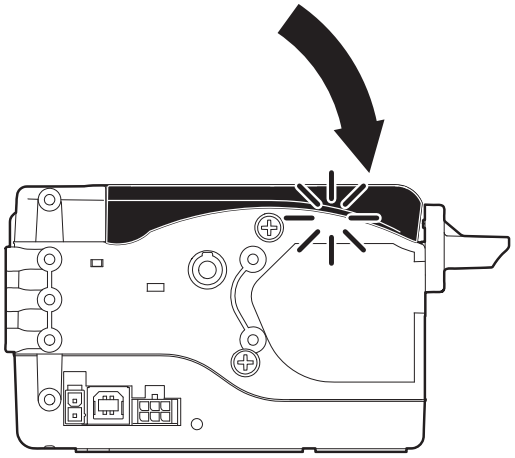
4



ATTENTION:
Do not use alcohol or hard brushes.
Do not let water or other liquids get inside the machine..

Clean the dragging roller
and the ejector roller
by using a soft cloth moistened with isopropyl

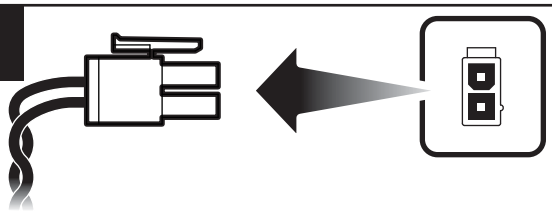
5



Close the printer cover

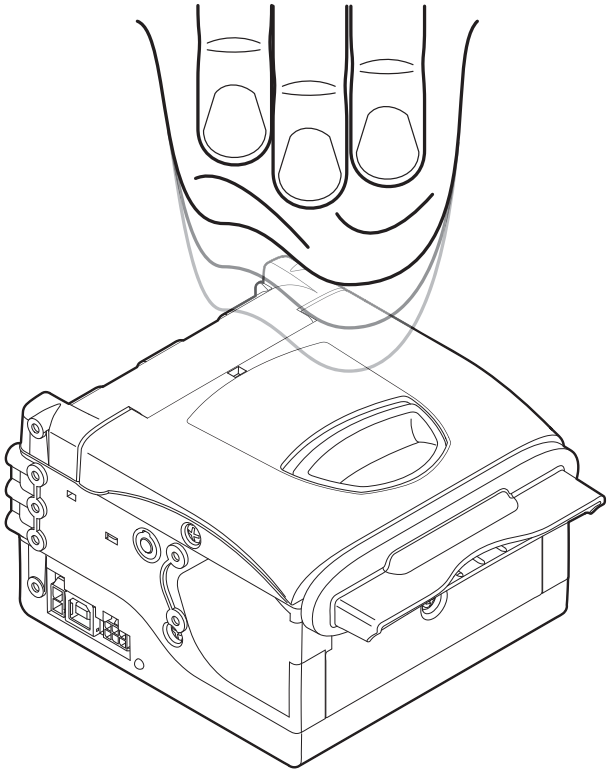
CASE

1

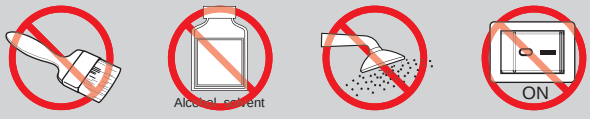


Disconnect the
power supply cable.

2



ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.



To clean the machine,
use pneumatic air or soft cloth.

6.3 Upgrade firmware

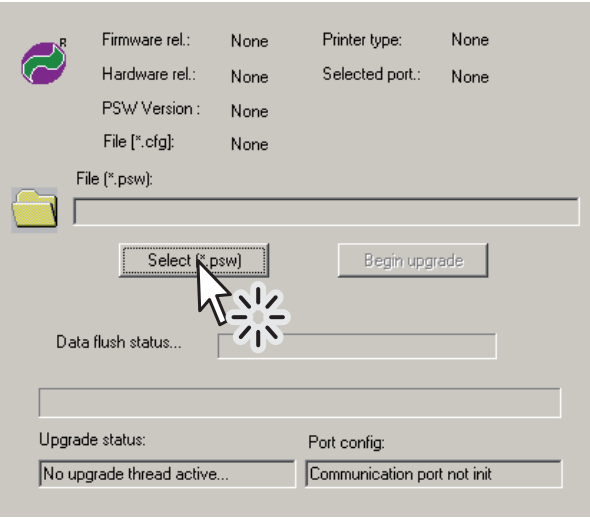
WARNING: During communication between PC/ printer for the firmware update it is strictly forbidden to disconnect the communication cable or to remove the power supply of the devices not to endanger the proper functioning of the printer.

Note: Install on the PC used for printer upgrading the UPGCEPRN software available in the download area of the web site www.custom.biz.

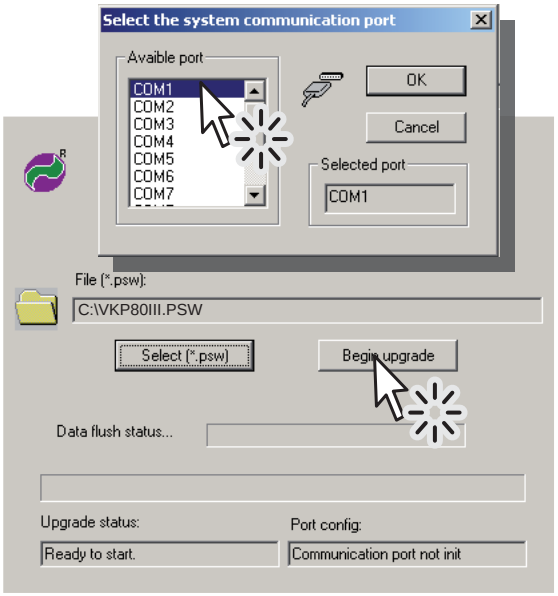
UPDATE VIA SERIAL INTERFACE

Proceed as follows:

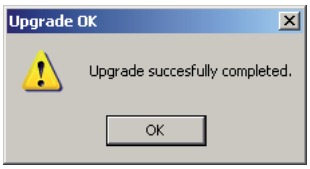
1. Write down the product code (14 digits) printed on the product label (see par. 2.2).
2. Go to the web site www.custom.biz and download the appropriate firmware release from the DOWNLOAD area.
3. Print the SETUP report (see chapter 5).
4. Switch OFF the printer.
5. Connect the printer to the PC using a USB cable or a serial cable (see paragraph 3.2).
6. Switch ON the printer.
7. Start the software UPGCEPRN.
8. Select the update file .PSW location :



9. Select the serial communication port (ex. COM1):



10. Detecting and setting of the parameters necessary for serial communication are performed automatically and then updating begins.
11. After a few minutes a message on the screen warns that the update is completed.



12. Print a new SETUP report to verify the new firmware release (see chapter 5).

UPDATE VIA USB INTERFACE

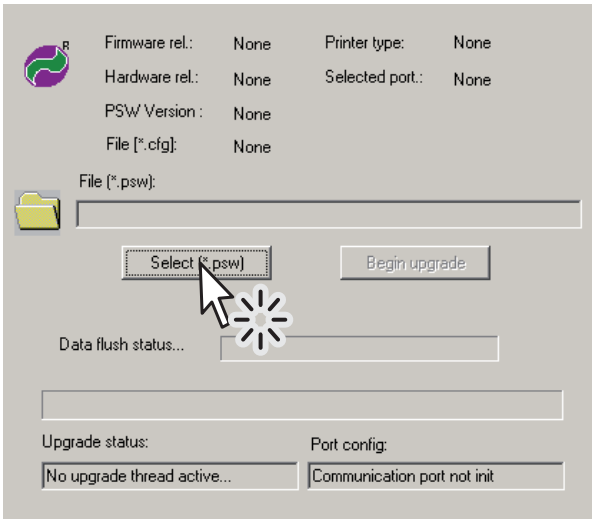
ATTENTION: Only during the firmware update, the connection between PC and printer must be direct, without the use of wireless HUB.

ATTENTION: Only during the firmware update, do not connect or disconnect other USB devices.

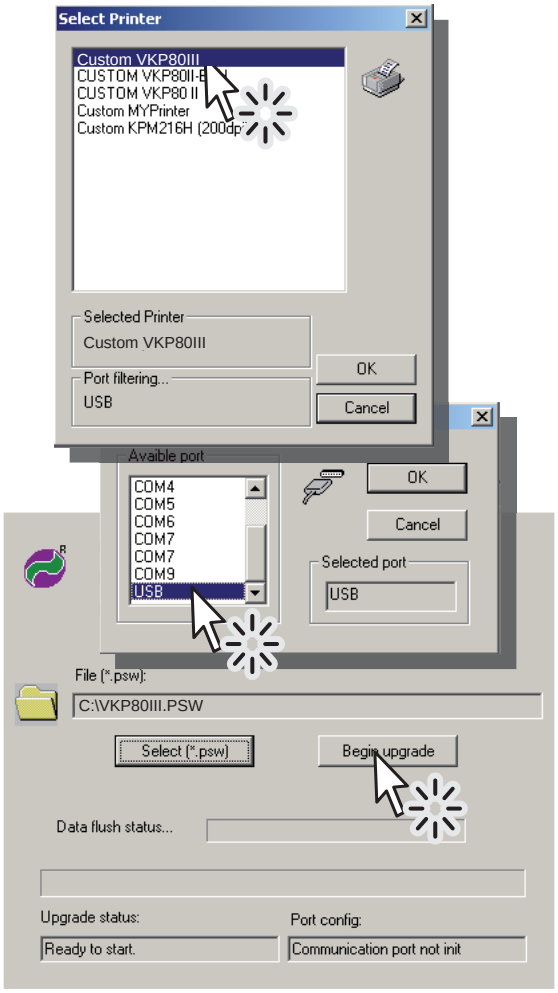
NOTE: For communication via USB you must install on PC the printer driver available in the download area of the web site www.custom.biz.

Proceed as follows:

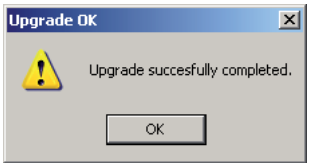
1. Write down the product code (14 digits) printed on the product label (see par. 2.2).
2. Go to the web site www.custom.biz and download the appropriate firmware release from the DOWNLOAD area.
3. Print the SETUP report (see chapter 5).
4. Switch OFF the printer.
5. Connect the printer to the PC using a USB cable or a serial cable (see paragraph 3.2).
6. Switch ON the printer.
7. Start the software UPGCEPRN.
8. Select the update file .PSW location :



9. Select item USB and then select the USB device among those proposed (ex. VKP80III):



10. After a few minutes a message on the screen warns that the update is completed.



11. Print a new SETUP report to verify the new firmware release (see chapter 5).

7 SPECIFICATIONS

7.1 Hardware specifications

GENERAL	
Sensors	Ticket presence on input, ticket presence on output, printing head temperature, ejector position, mobile detector for notch on non-thermal side of paper, fixed detector for notch on thermal side of paper (optional), printing unit open, tilting bulkhead position, near paper end on external paper roll holder (optional)
MTBF(1)	147 823 h
Emulations	VKP80II, VKP80III
INTERFACES	
RS232 serial connector	da 1200 a 230 400 bps
USB connector	12 Mbit/sec (USB 2.0 full speed)
MEMORIES	
Flash memory	1 Mbytes internal + 4 Mbytes external (of which 1Mbytes available)
RAM memory	128 Kbytes internal + 8Mbytes external
Receive buffer	2 Kbytes
PRINTER	
Resolution	203 DPI (8 dot/mm)
Printing method	thermal, fixed head
Head life (2)	200 km
Printing width	from 48mm to 80mm (2mm step)
Printing mode	normal, 90°, 180°, 270°
Printing format	height/width from 1 to 8, bold, reverse, underlined, italic
Character fonts	
VKP80II emulation	PC437, PC850, PC860, PC863, PC865, PC858 (euro)
VKP80III emulation	PC437, PC850, PC860, PC863, PC865, PC858 (euro), 2 TrueType font (3)
Printable barcode (4)	UPC-A. UPC-E, EAN13, EAN8, CODE39, ITF, CODABAR, CODE93, CODE128, CODE32 PDF417, DATAMATRIX, AZTEC, QRCODE
Printing speed (2) (5)	High Quality = 100 mm/sec Normal = 150 mm/sec High Speed = 200 mm/sec
PAPER	
Type of paper	Thermal rolls, thermal side on outside of roll

Paper width	from 50 mm to 82,5 mm
Paper weight	from 60 g/m² to 110 g/m²
Recommended types of paper	KANZAN KF50, KP460 and KP390 MITSUBISHI PF5075, TL4000 and TF1067
Paper end	not attached to roll core
External roll diameter (6)	max 180 mm
Internal roll core diameter	25 mm
Core type	Cardboard or plastic
CUTTER	
Paper cut	total
Estimated life (2)	1 000 000 cutter number
ELECTRICAL SPECIFICATIONS VKP80III	
Power supply	24 Vdc ±10% (optional external power supply)
Medium consumption (5)	1 A
Stand-by consumption	0,04 A
ELECTRICAL SPECIFICATIONS POWER SUPPLY cod.963GE020000003 (OPTIONAL)	
Power supply voltage	from 100Vac to 240Vac
Frequence	from 50Hz to 60Hz
Current (output)	24 Vdc ± 10%
Power	60 W
ENVIRONMENTAL CONDITIONS	
Operating temperature	from 0°C to +50°C
Relative humidity	from 10% Rh to 80% Rh
Storage temperature	from -20 °C to +70 °C
Storage relative humidity	from 10% Rh to 90% Rh

NOTES:
(1) : Control board
(2) : Respecting the regular schedule of cleaning for the device components.
(3) : “Veramono.ttf” and “Vera.ttf” are installed on printer flash disk.
(4) : You can print the formats of bidimensional barcode (PDF417, DATAMATRIX, AZTEC, QRCODE) only with the VKP80III emulation enabled.
(5) : Referred to a standard CUSTOM receipt (L = 10cm, Density = 12,5% dots on).
(6) : For external rolls diameter higher to Ø120mm it’s recommended to use a paper pretensioning device.

7.2 Character specifications

VKP80III EMULATION			
Character density	11 cpi	15 cpi	20 cpi
Number of columns	35	45	64
Printing speed			
Chars / sec	2370	3047	4266
Lines / sec	66	66	66
Characters (L x H mm)			
Normal	2,25 x 3	1,75 x 3	1,25 x 3
VKP80II EMULATION			
Character density	11 cpi	15 cpi	20 cpi
Number of columns	88	123	160
Printing speed			
Chars / sec	1760	2460	3200
Lines / sec	20	20	20
Characters (L x H mm)			
Normal	2,25 x 3	1,625 x 3	1,25 x 3

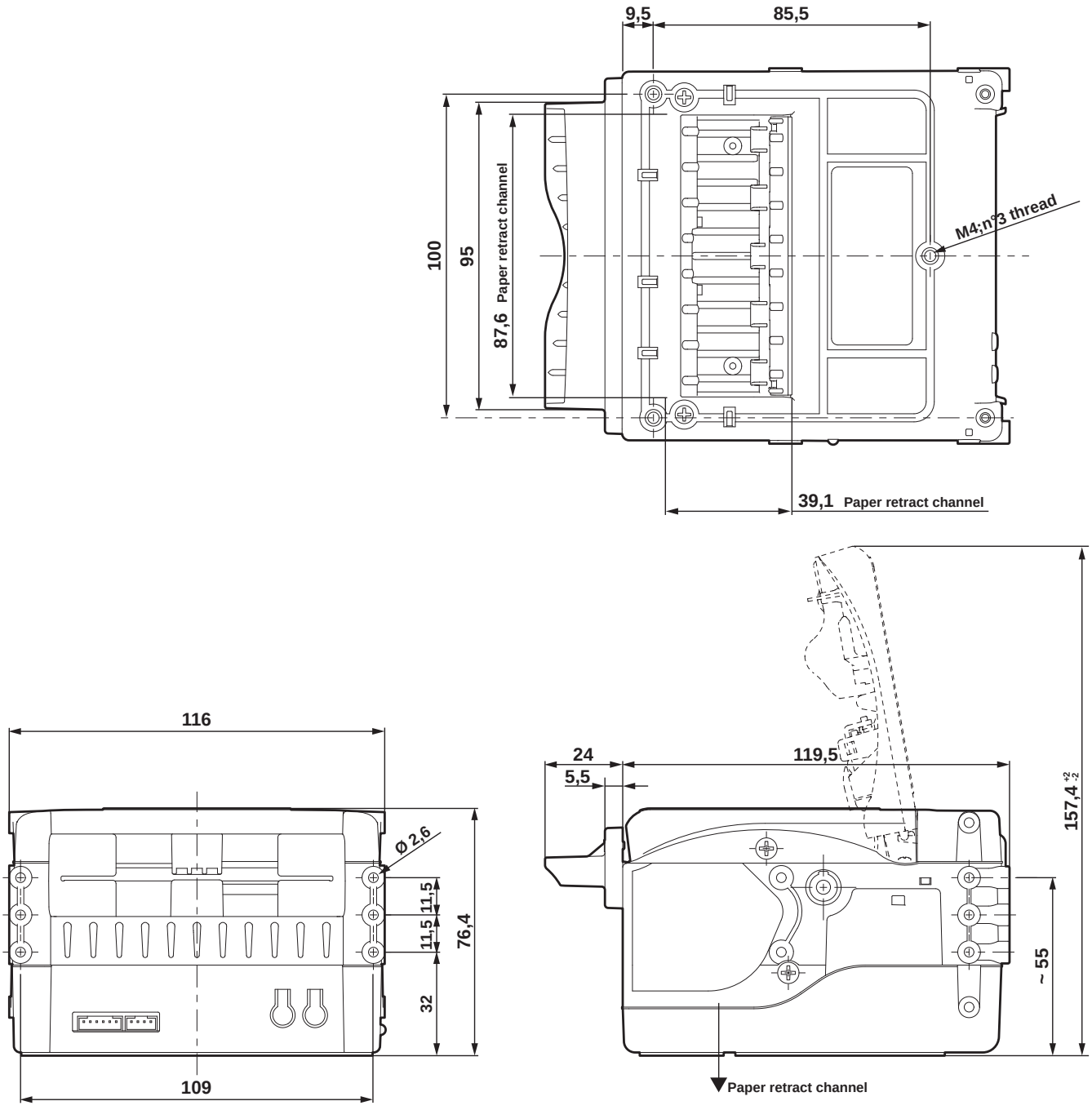
7.3 Ejector specifications

EJECTOR		
“Retracting” function	Ticket length	Ticket presentation
	70mm	10mm
	80mm	10 mm - 30 mm
	80 mm - 220 mm	10 mm - 30 mm
“Ejecting” function	Ticket length	Ticket presentation
	70mm	10mm
	> 80mm	10 mm - 30 mm
	350 mm (1)	10 mm - 30 mm

NOTE:
(1) : Maximum length recommended to guarantee the printer efficiency.

7.4 Printer dimensions

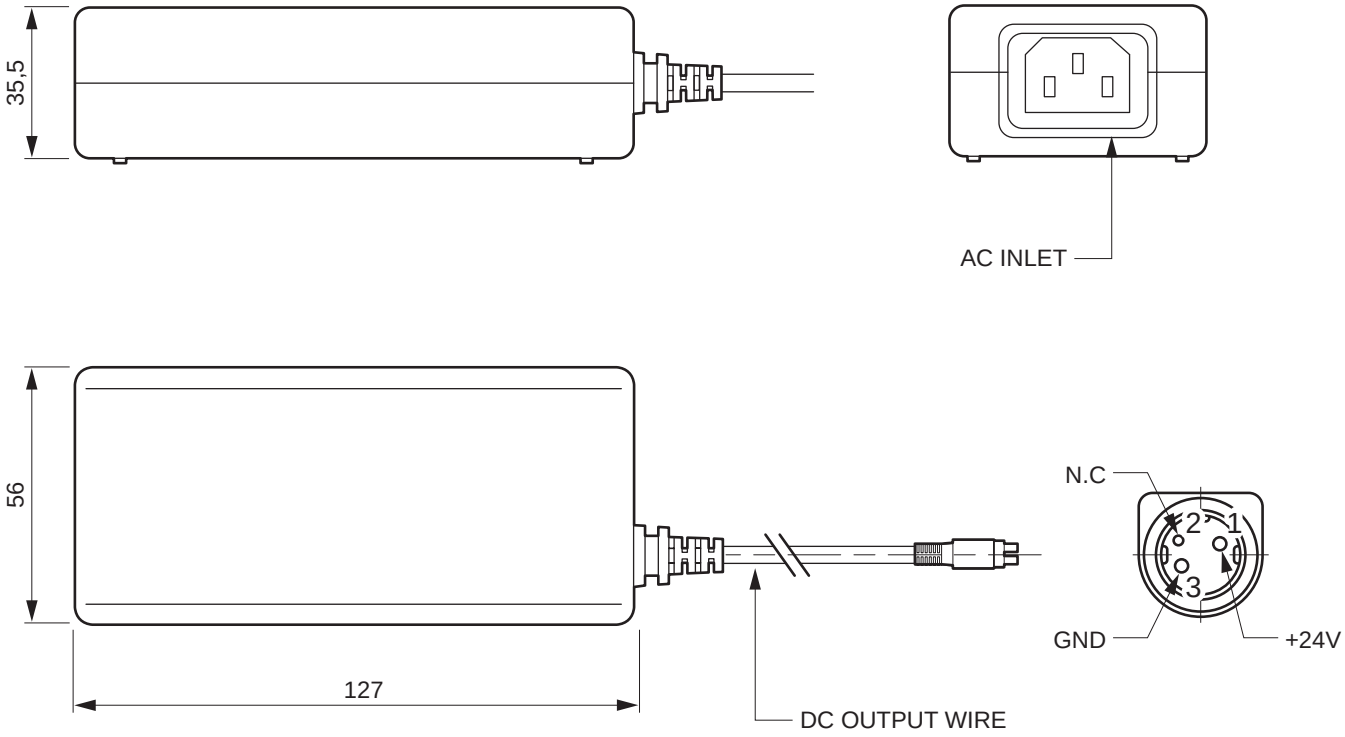
Length	143,5 mm
Height	*(with printing unit closed)* 76,4 mm *(with printing unit open)* 157,4 mm
Width	116 mm
Weight	800 g



NOTE: Referred to printer models without paper roll holder optional.

7.5 Power supply dimensions cod.963GE020000003 (optional)

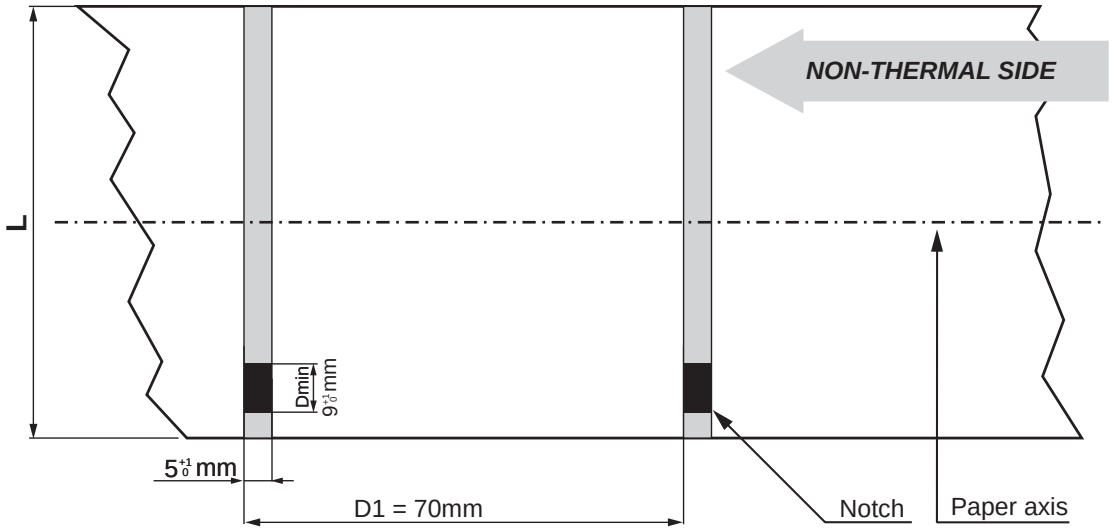
Length	127 mm
Height	35,5 mm
Width	56 mm



7.6 Paper specifications

PAPER WITH ALIGNMENT NOTCH ON THE NON-THERMAL SIDE

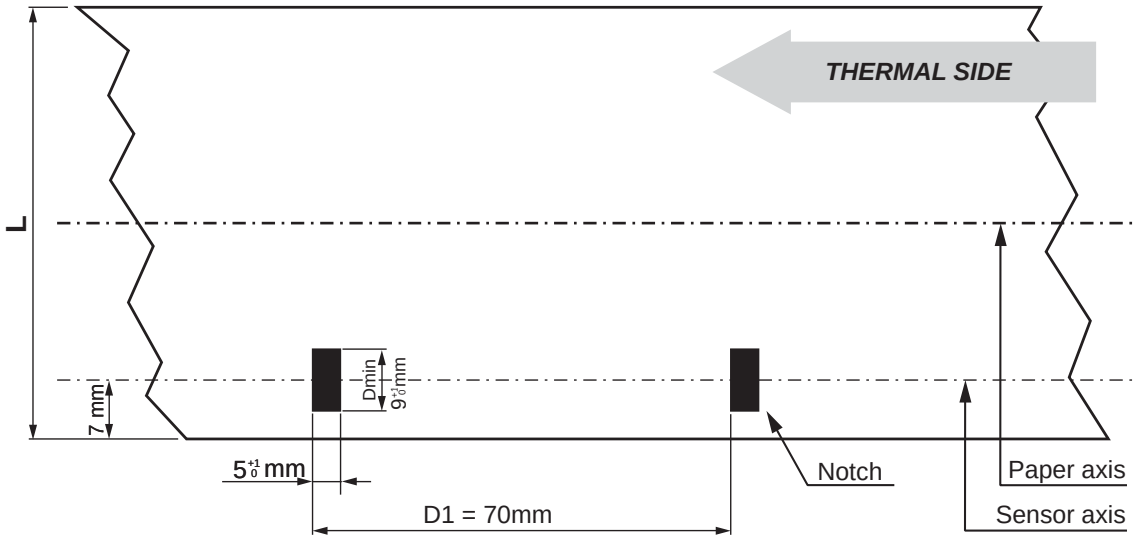
The following figure shows a sample paper with alignment notch placed on the non-thermal side of paper.
The notch can be positioned anywhere across the width of the paper, because the notch detector is a mobile sensor.



L = paper width used (adjustable from 50mm to 82,5 mm)
Dmin = minimum notch dimension
D1 = minimum notch to notch distance

PAPER WITH ALIGNMENT NOTCH ON THE THERMAL SIDE
only with VKP80III emulation enabled

The following figure shows a sample paper with alignment notch placed on the thermal side of paper. This sample paper is for the printer models with the upper notch detector (optional) assembled on the right cursor. For models with the upper notch detector (optional) assembled on the left cursor, the paper will be symmetrical to its longitudinal axis.



L = paper width used (adjustable from 50mm to 82,5 mm)
Dmin = minimum notch dimension
D1 = minimum notch to notch distance

7.7 Western characters

The printer has 3 fonts of varying width (11, 15 and 20 cpi) which may be accessed through programming or control characters.
Each of these fonts offers the following code tables: PC437, PC850, PC860, PC863, PC865, PC858.

PC437 CODE TABLE (Usa, Standard Europe)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	¢	£	¥	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC850 CODE TABLE (Multilingual)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Đ	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC860 CODE TABLE (Portuguese)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	Í	Ô	ì	Ã	Â
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	À	È	ô	ö	ò	Ú	ù	Ì	Õ	Ü	¢	£	Ù	Pts	Ó
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	Ò	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC863 CODE TABLE (Canadian, French)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	Â	à	¶	ç	ê	ë	è	ï	î	‗	À	§
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	È	Ê	ô	Ë	Ï	û	ù	¤	Ô	Ü	¢	£	Ù	Û	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	¦	´	ó	ú	¨	¸	³	¯	Î	⌐	¬	½	¼	¾	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	ⁿ	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC865 CODE TABLE (Nordic)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	¤
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	2	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC858 CODE TABLE (Euro symbol)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Ð	Ê	Ë	È	€	Í	Î	Ï	┘	┌	▉	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

NOTE: To print the Euro (€) symbol, the command sequence is: $1B, $74, $13, $D5 (see Commands Manual).

7.8 True Type Font

In VKP80III emulation, it is possible to use TrueType fonts. To be used, a TrueType font must be monospace type (every character of the font must have the same dimension). The check is made by the printer when the font is selected.

TrueType fonts will be automatically scaled by the printer in order to obtain the same available width for the embedded fonts (11, 15 and 20 cpi).

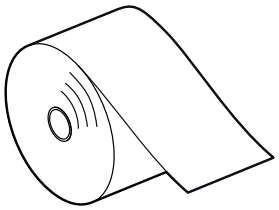
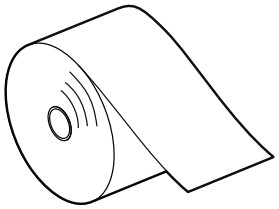
The quality of TrueType fonts and the correct positioning into the printable area will result from the font producers and the font implementation.

The available code tables are : PC437, PC850, PC860, PC863, PC865, PC858, PC866, PC852, WPC1252.

For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character. All commands for printing configuration are usable both with TrueType fonts and with embedded fonts. It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.

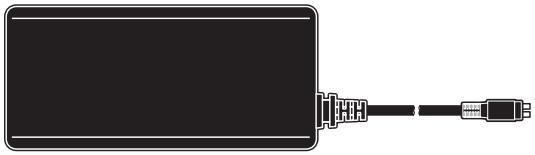
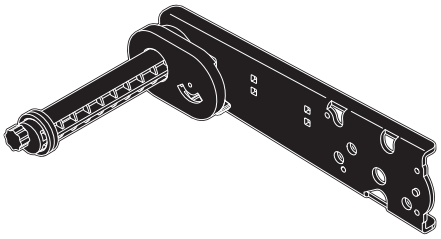
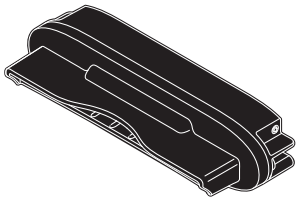
8 CONSUMABLES

The following table shows the list of available consumables for device:

DESCRIPTION	CODE
THERMAL PAPER ROLL WITH BACK SIDE PRE-PRINTED weight = 58g/m^2 width = 80mm Ø external = 48mm Ø core = 25mm	**67300000000395** 
THERMAL PAPER ROLL weight = 58g/m^2 width = 80mm Ø external = 130mm Ø core = 25mm	**67300000000380** 

9 ACCESSORIES

The available accessories for the device are listed in the following table:

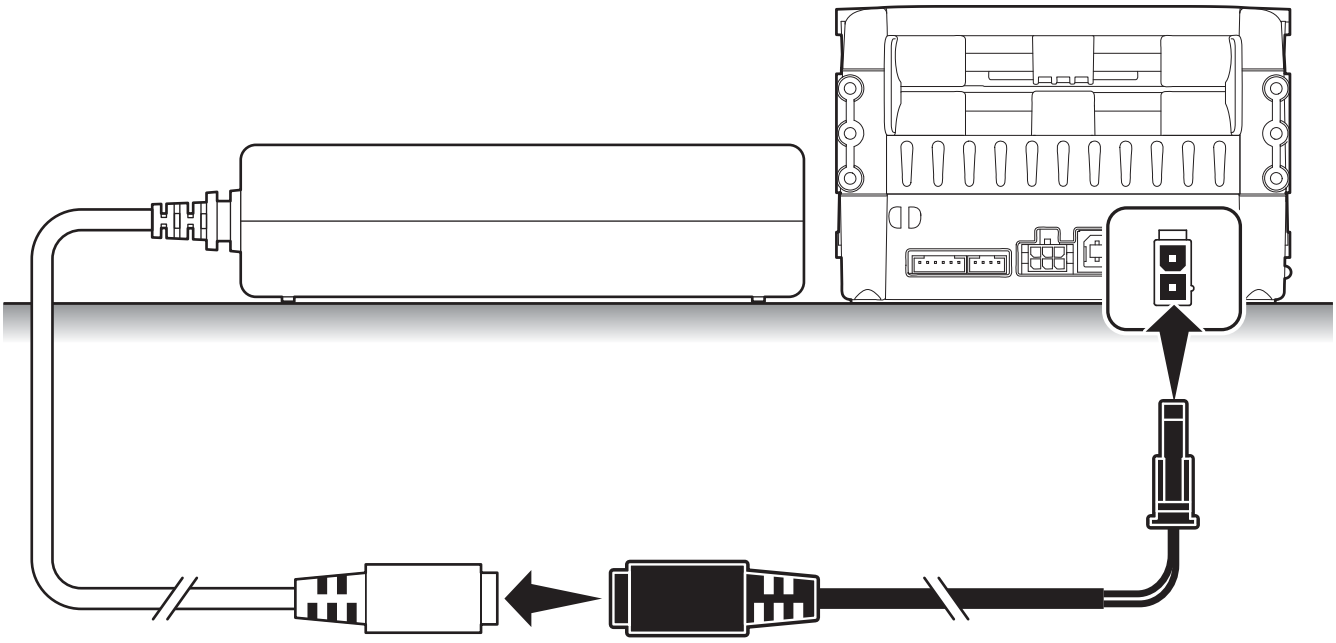
DESCRIPTION	CODE
POWER SUPPLY (for technical specifications, see paragraphs 7.1 and 7.5)	**963GE020000003** 
ADAPTER CABLE FOR POWER SUPPLY (see the paragraph 9.1)	**26900000000005**
PAPER ROLL HOLDER WITH NEAR PAPER END SENSOR to assemble on the right side of the device (see the paragraph 9.2)	**974DW010000318** 
ADJUSTABLE PAPER ROLL HOLDER WITH NEAR PAPER END SENSOR to assemble both on the left and the right side of the device (see the paragraph 9.3)	**974DX010000320**
“SHUTTER” DEVICE KIT (see the paragraph 9.4)	**976DX010000001** 

9.1 Adapter cable for power supply

For the device is available an adapter cable (cod. 26900000000005) supplied as an accessory, for connecting the printer to the external power supply unit (cod. 963GE020000003 - optional).

ASSEMBLY INSTRUCTIONS

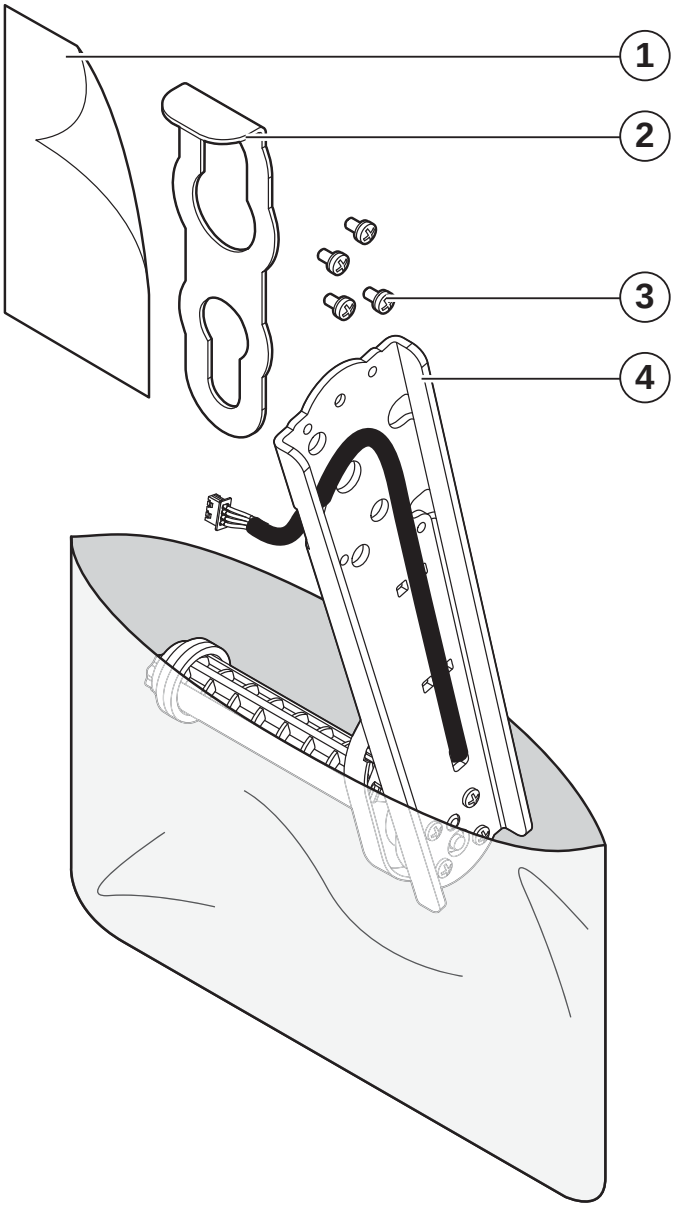
Connect the adapter cable to the power supply unit as follows:



9.2 Paper roll holder

A paper roll holder kit (cod.974DW010000318) is available for the printer to make it possible to use larger-width rolls of paper (max. Ø150 mm).
The paper roll holder can be only assembled on the destro side of the printer as shown in the following figures.

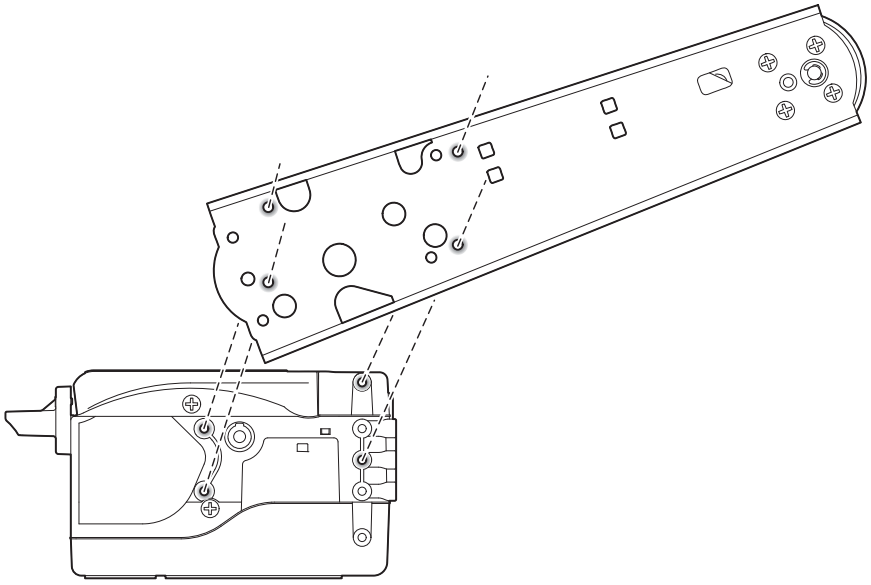
The kit includes (see figure):
1. Instruction sheet
2. Tie for roll blocking
3. No. 4 fastening screws
4. Paper holder support with near paper end sensor and regulating system for paper width.



ASSEMBLY INSTRUCTION

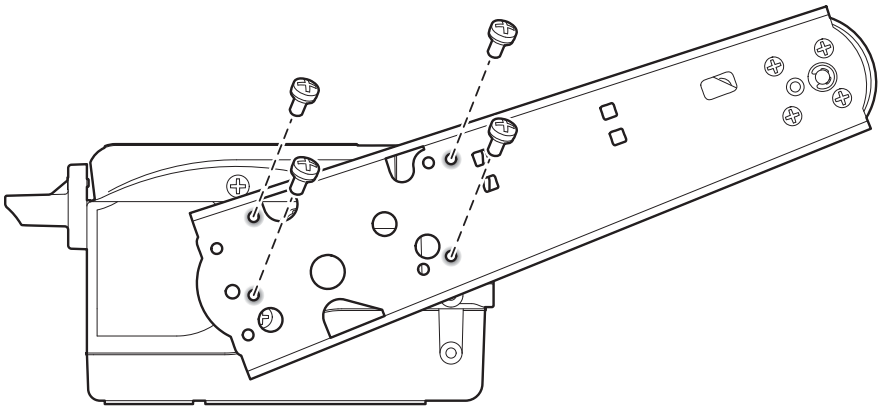
To assemble the paper roll holder to the printer, proceed as follows:

1



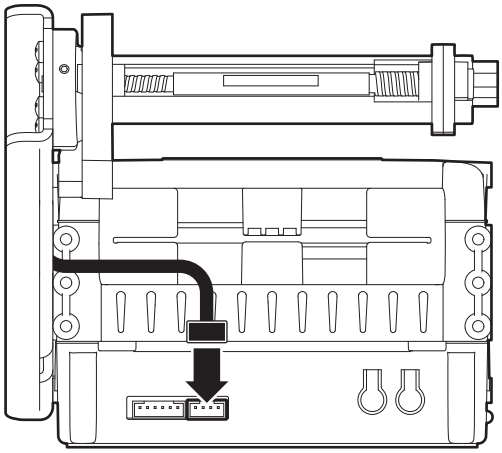
Place the roll holder near to the fixing holes on the right side of printer.

2



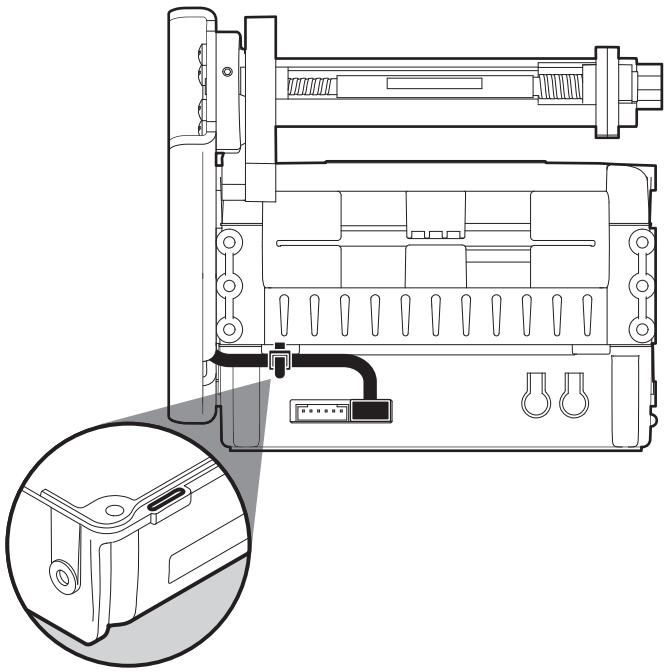
Fix the roll holder with the four fixing screws (supplied).

3



Insert the connector for the near paper end sensor.

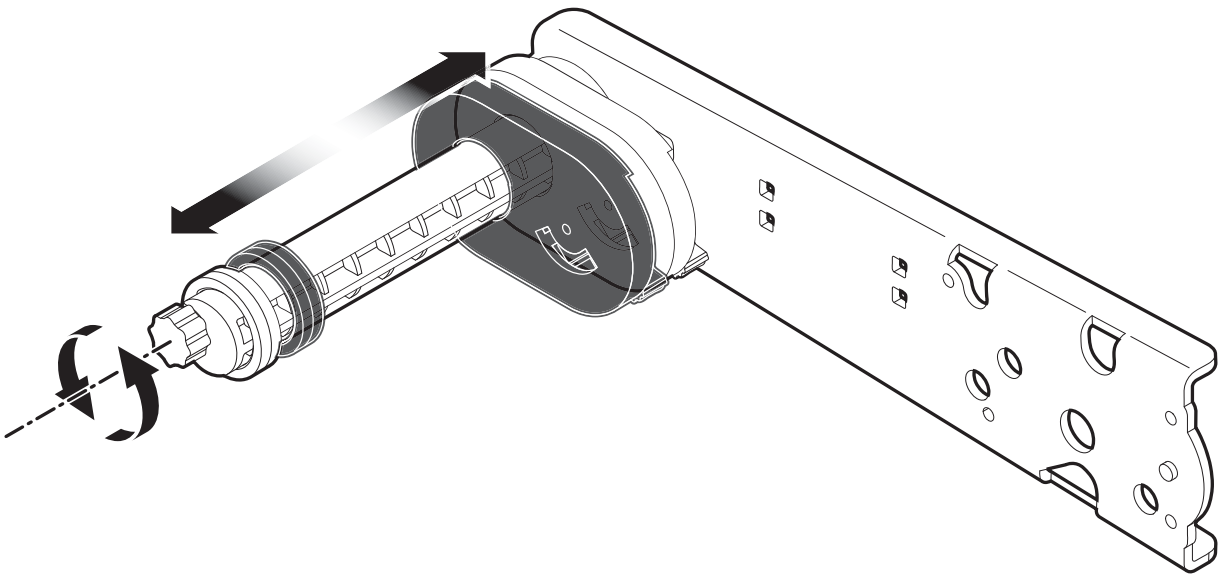
4



If necessary, you can ensure the cable to the printer with a tie
using the appropriate slot in the back of the printer itself.

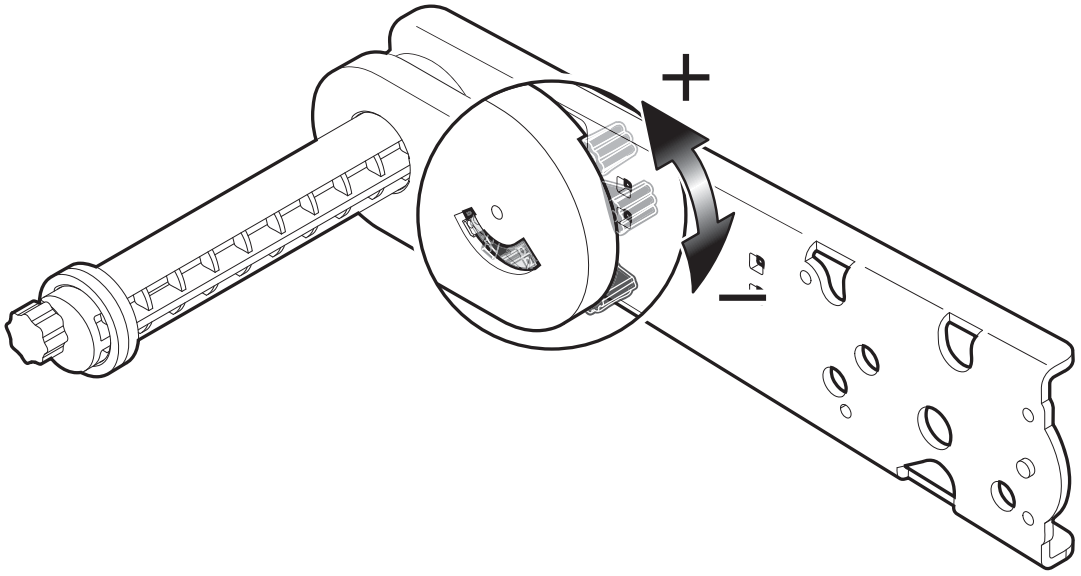
PAPER WIDTH ADJUSTING

Paper width may be set from 50mm to 82,5mm. max. To adjust the width of the paper roll housing, rotate the knob shown in figure.



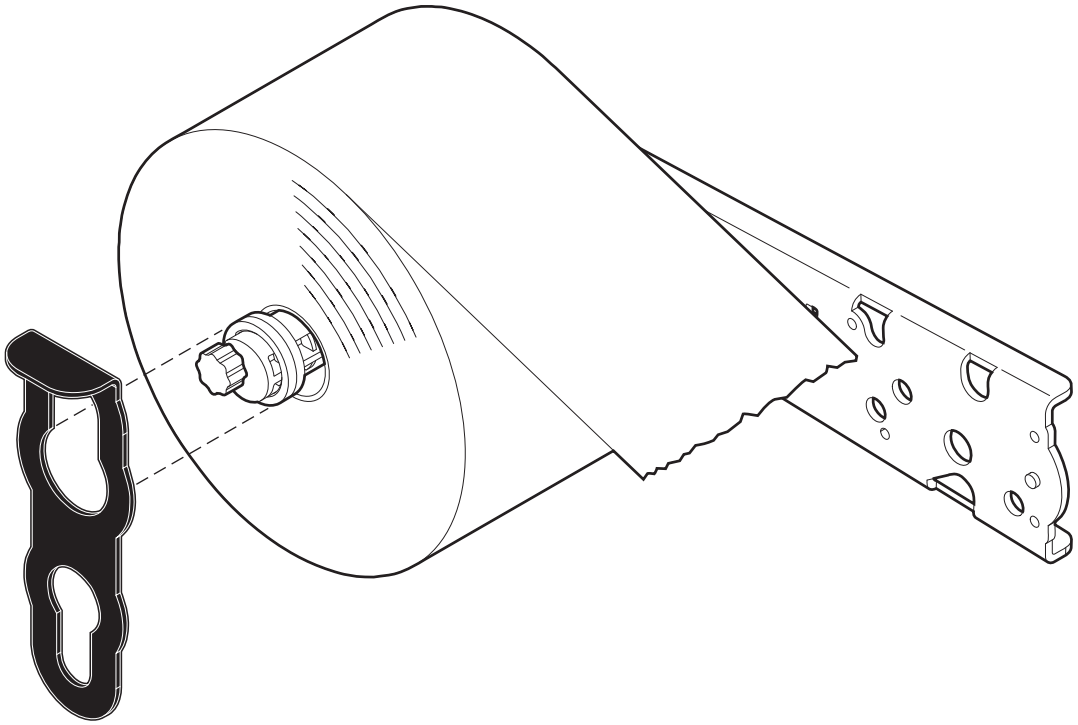
NEAR PAPER END ADJUSTING

Rotate the lever to adjust the position of the sensor for near paper end. Move the lever up to in-crease the reserve of paper, move the lever down to decrease the reserve of paper (see following figure).

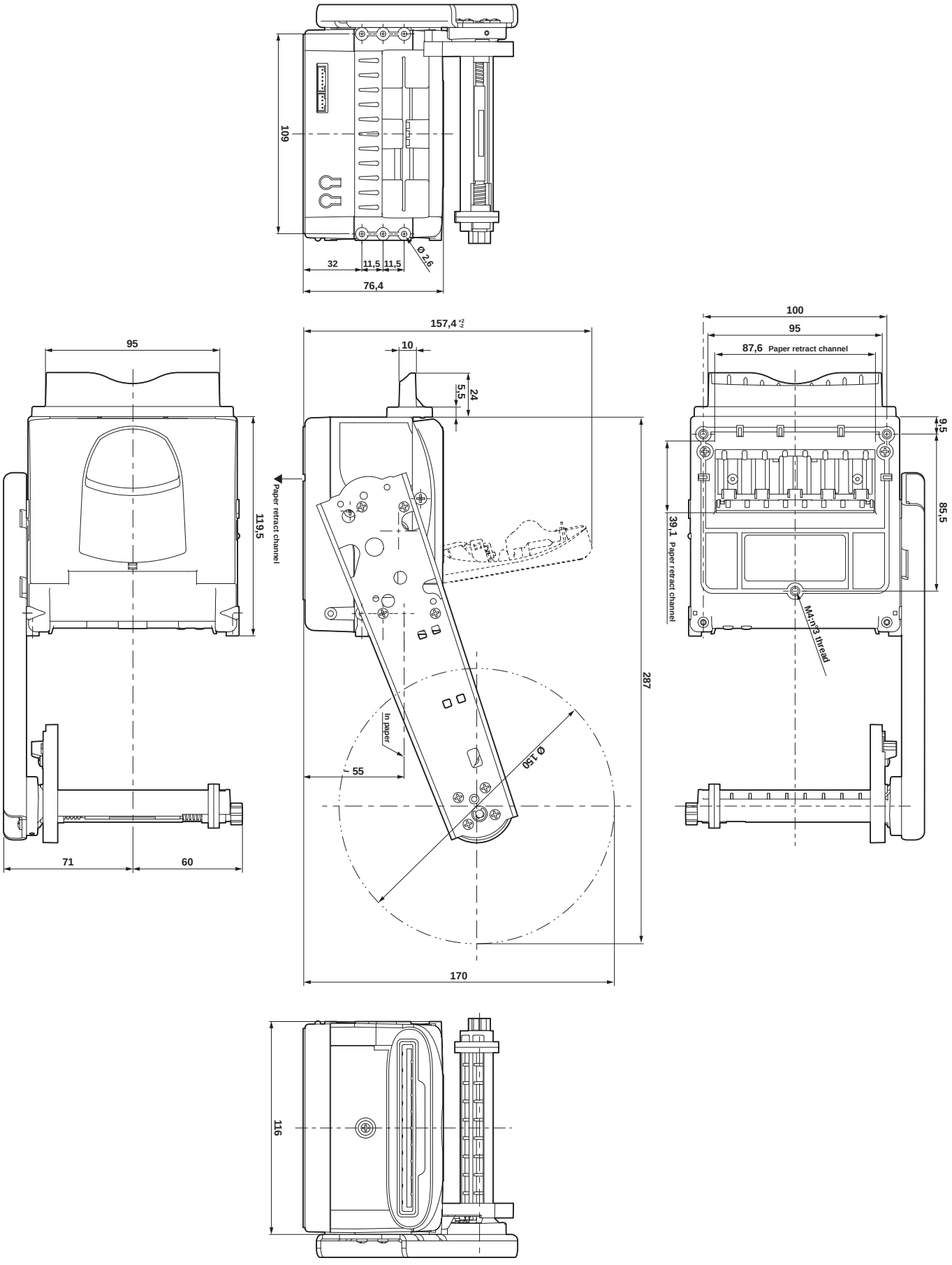


USE OF "TIE" FOR ROLL BLOCKING

Insert the "tie" as shown in figure to avoid the paper roll come out accidentally from the pin.



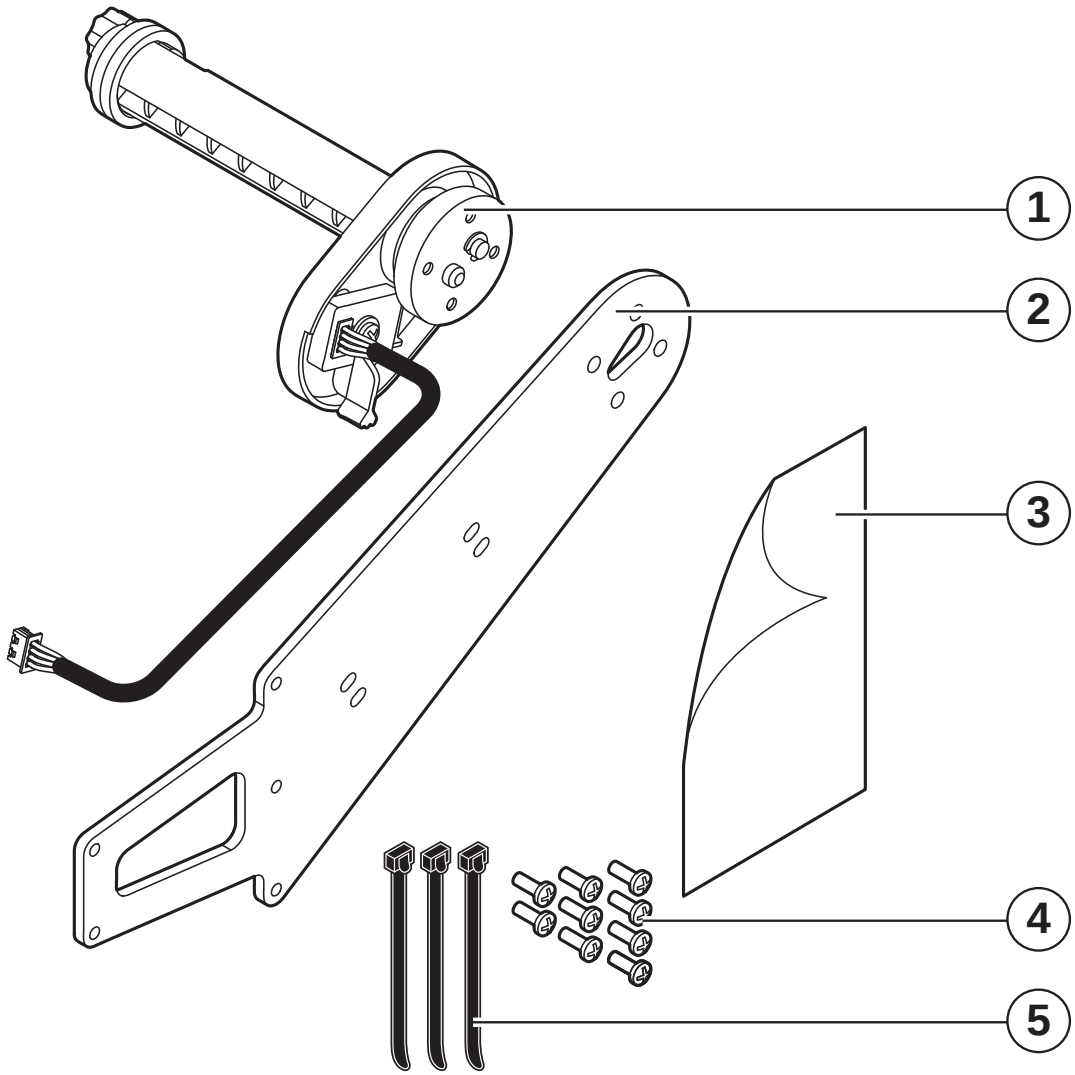
The following figure shows the printer dimensions with the paper roll holder assembled:



9.3 Adjustable four position holder for paper roll (right and left side)

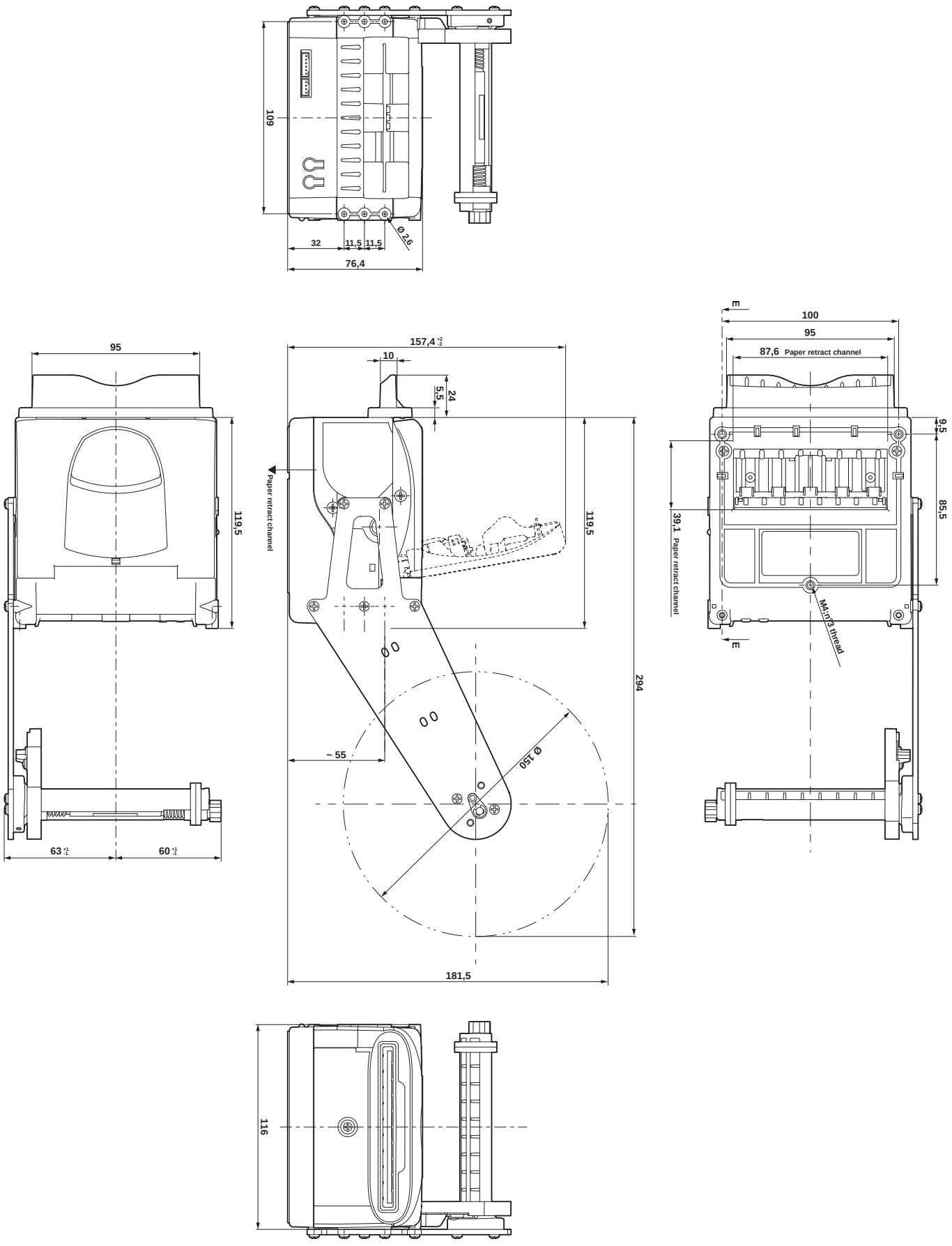
An adjustable holder kit for paper roll (cod.974DX010000320) is available for the printer.
The adjustable paper roll holder can be assembled on both the printer sides (upwards or downwards) and it allows the use of larger-width rolls of paper (max. Ø150 mm).

The kit includes (see figure):
1. Pin for paper roll with near paper end sensor
2. Paper roll holder
3. Instruction sheet
4. No.5 fixing screws for holder + No.4 fixing screws for pin
5. Fixing ties for sensor cable



NOTE: To assemble the paper holder kit in the 4 possible mounting positions, refer to the instruction sheet enclosed with the kit.

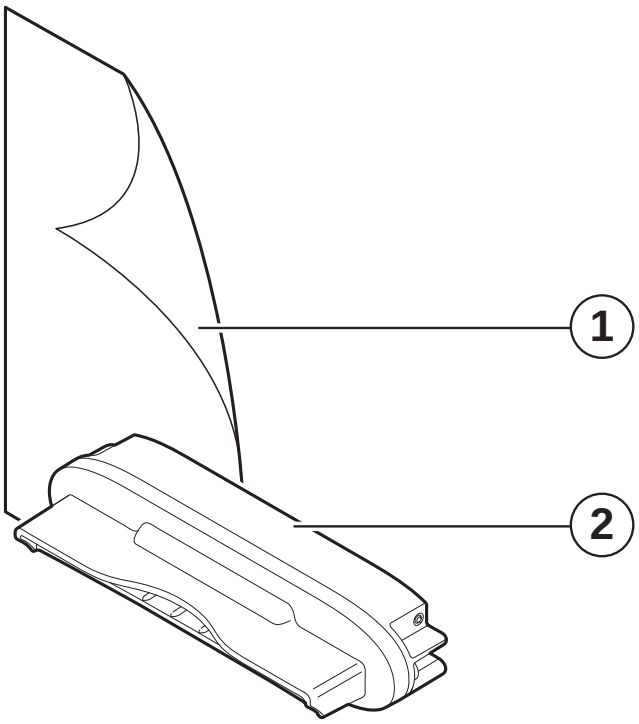
The following figure shows the printer dimensions with the adjustable paper roll holder assembled in one of the four possible mounting positions:



9.4 “Shutter” device

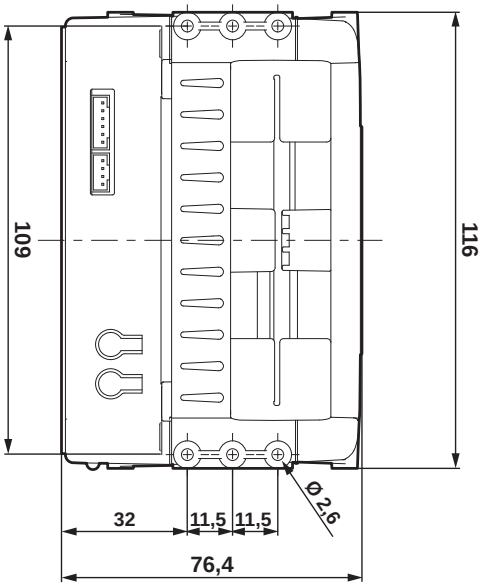
A “shutter” device (cod.976DX010000001) is available for the printer. This device prevents the insertion of paper or foreign objects into the outlet of the paper.

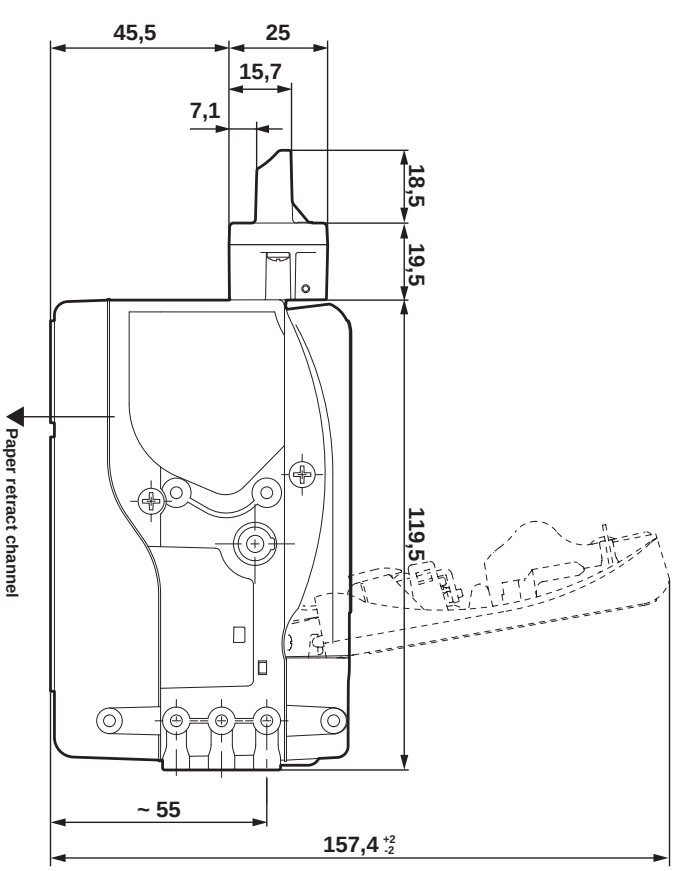
The kit includes (see figure):
1. Instruction sheet
2. “Shutter” group

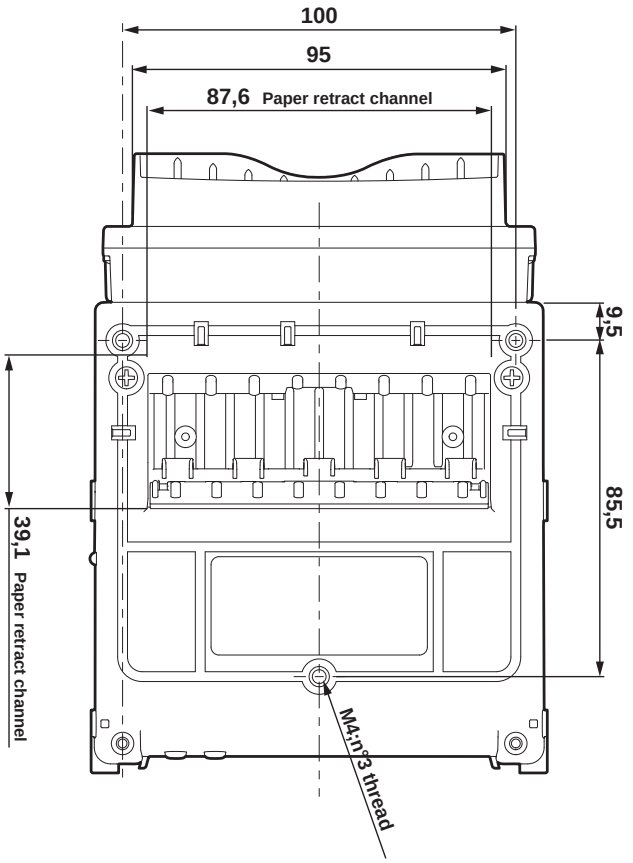


NOTE: To assemble the kit refer to the instruction sheet enclosed with the kit.

The following figure shows the printer dimensions with the “shutter” device assembled:







10 ALIGNMENT

Device is provided with sensors for the use of alignment notch in order to handle roll of tickets with pre-printed fields and a fixed length.

The alignment sensors assembled on printer, are “reflection” sensors: this kind of sensor emits a band of light and detects the quantity of light reflected to it.
The presence of the notch is therefore detected by the amount of light that returns to the sensor, considering that the light is reflected by the white paper and absorbed by the black mark.

The following paragraphs show how to correctly set the configuration parameters of device in order to assure the alignment.

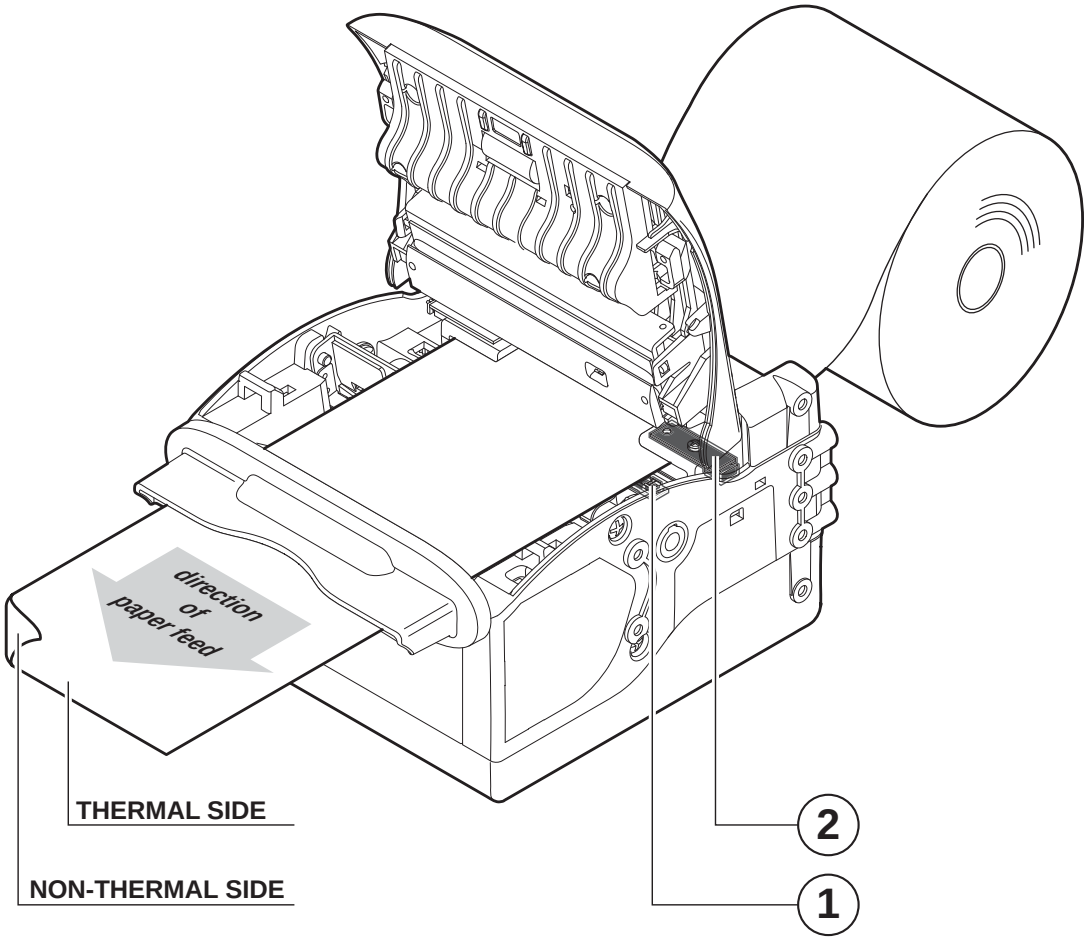
10.1 Enable alignment

The device can be provided with two sensors for alignmentment, placed as follows:
- one mobile sensor facing the non-thermal side of paper
- one fixed sensor (optional) facing the thermal side of paper.

To guarantee the alignment, it is necessary to correctly choose the sensor to use for the notch detection depending on the type of notch and its location on the ticket.
To do this, you must enable the parameter “Notch/B.Mark Position” during the Setup procedure (see chapter 5) and set the correct value of this parameter as described in the following table.

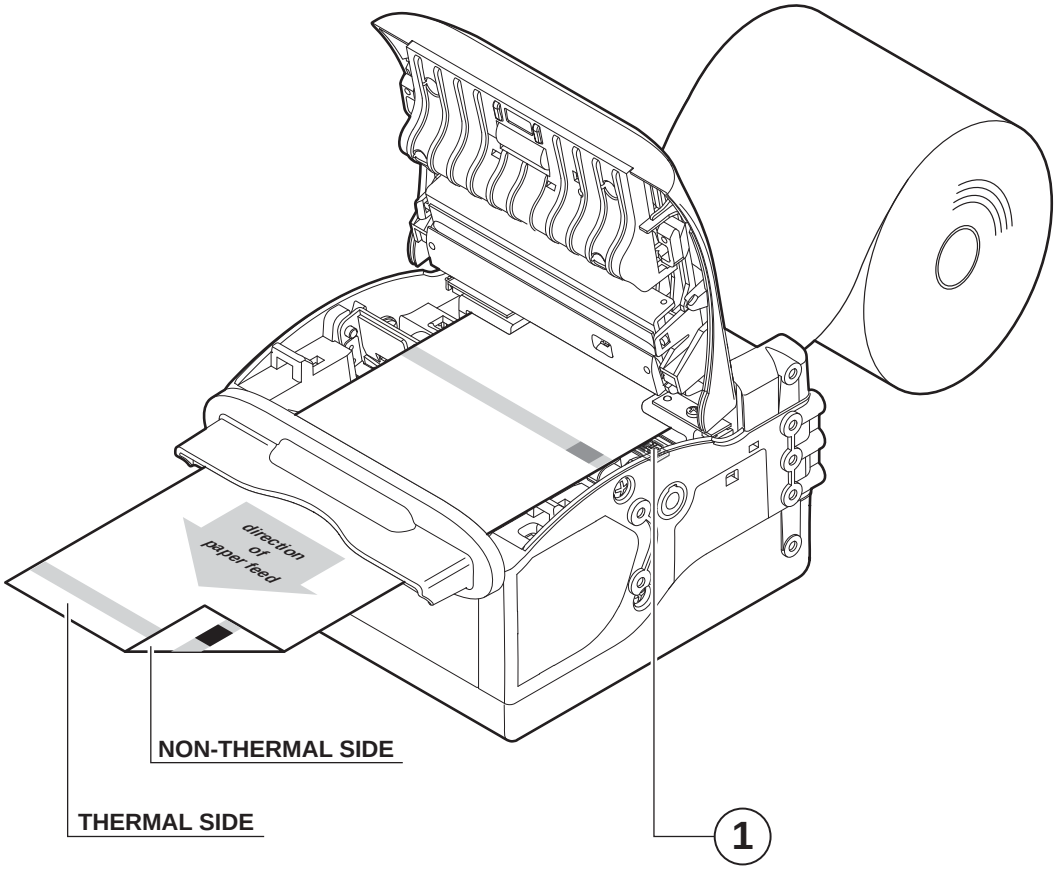
SENSOR USED (see following figure)	VALUE OF THE “NOTCH/B.MARK POSITION” PARAMETER	USING MODE OF SENSORS	NOTCH TYPE
-	Disabled	-	Alignment disabled
1	Bottom	Reflection	Black mark printed on the non-thermal side of paper
2	Top Side *	Reflection	Black mark printed on the thermal side of paper

* only for models with upper notch sensor and with VKP80III emulation enabled

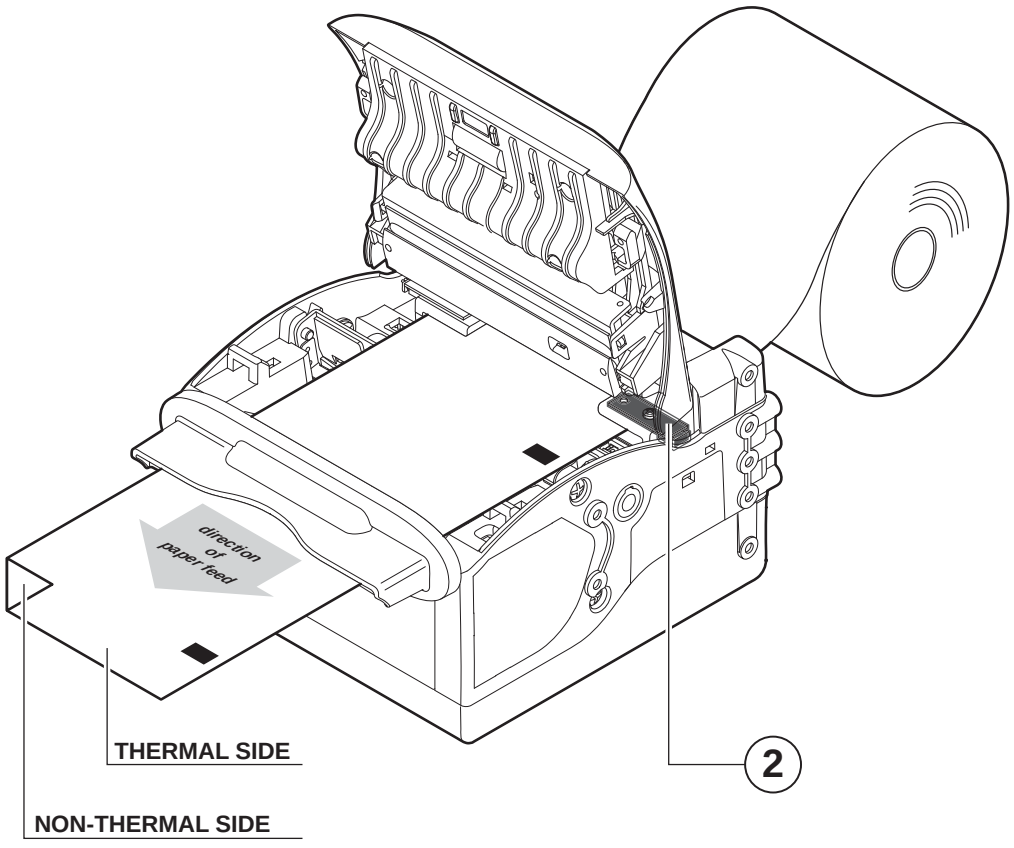


The following figures show the usable format of paper and the corresponding sensors used for alignment:

paper with black mark on the non-thermal side of paper



paper with black mark on the thermal side of paper



10.2 Calibration

The sensor calibration occurs automatically and consists in adjusting the quantity of light emitted to match the degree of whiteness of the paper used and the degree of black of the mark printed on paper.

The device automatically performs the self-calibration during the Setup procedure only if the “Notch/B.Mark Position” parameter is set to a value other than “Disabled” (see chapter 5).

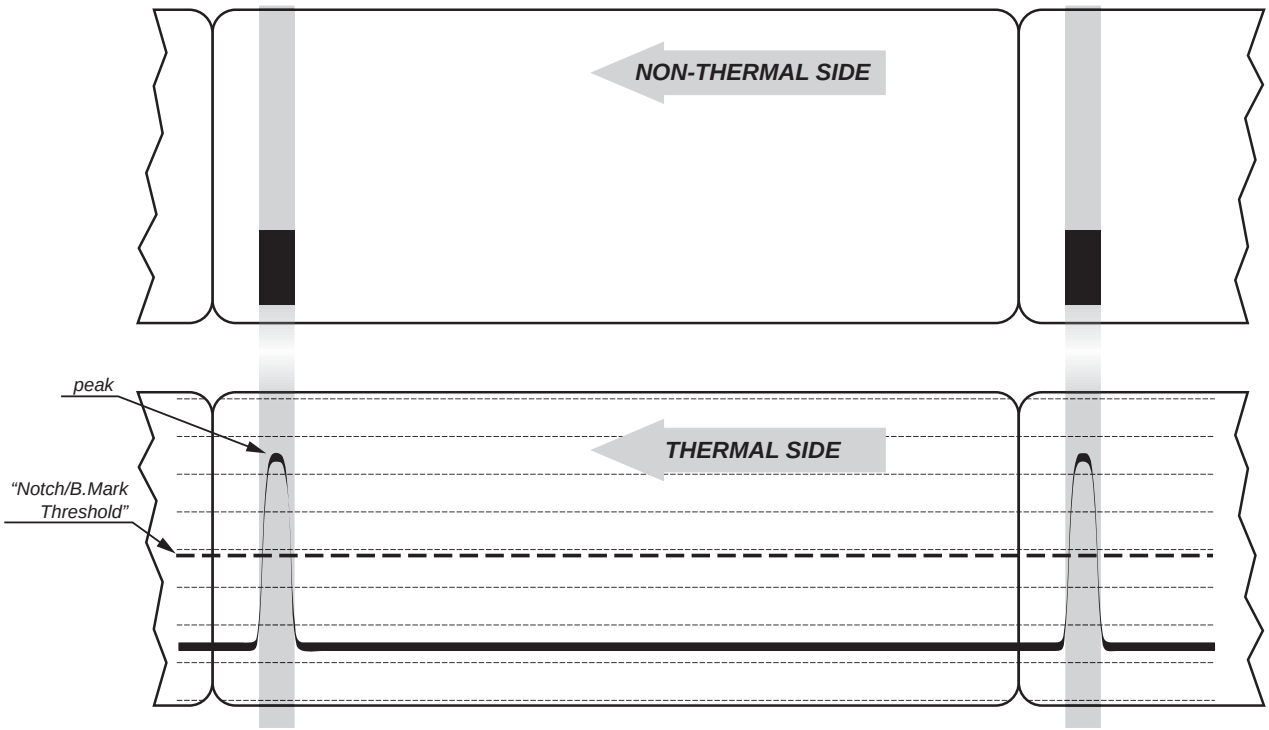
When self-calibration starts, the device performs some paper feeds and then it prints the calibration result and the value of the PWM duty-cicle (also expressed as a percentage) of the alignment sensor driver so that it can be perform an optimal notch detection:

Autosetting Notch : OK
PWM Duty Cycle : 2,7V [82%]

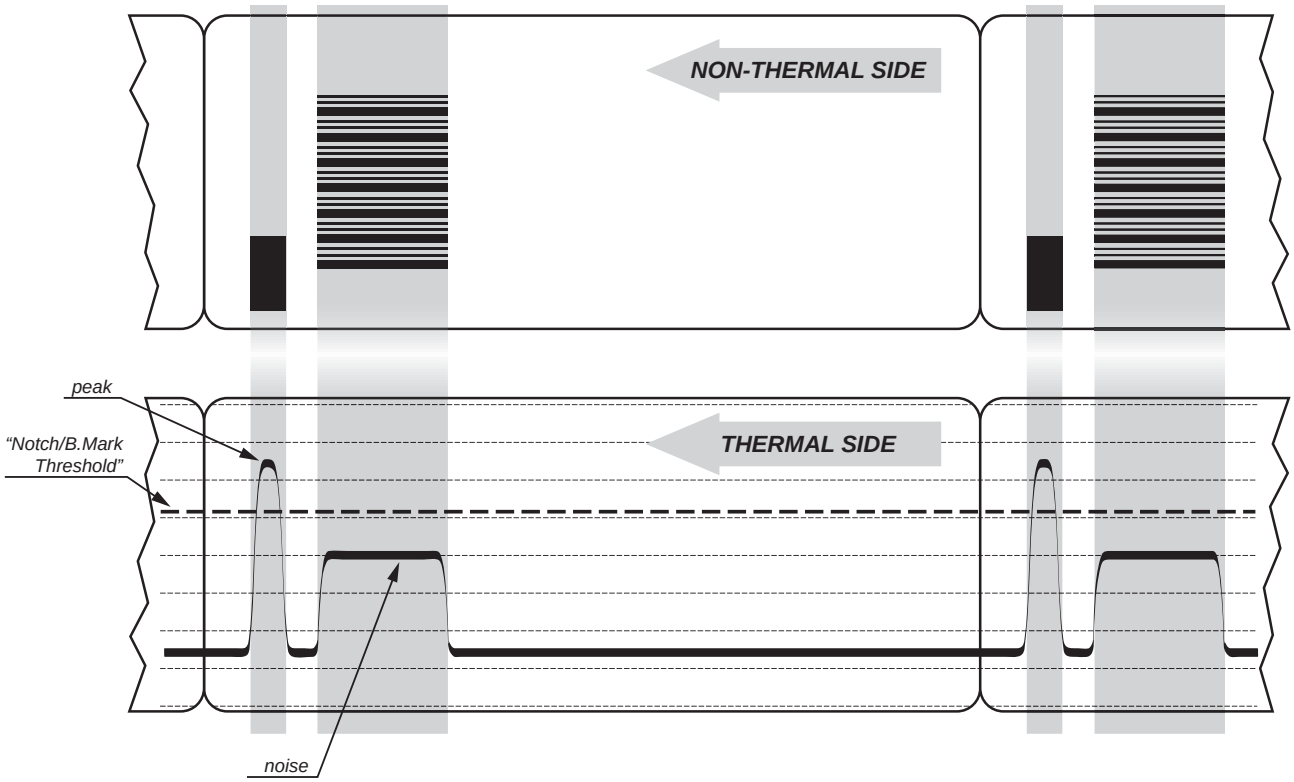
The “Autosetting Notch” parameter indicates the result of the self-calibration procedure; OK will appear if it has been successful, NOT OK will appear if the procedure has failed.

After the printing of the procedure result, the device offers the execution of the function of paper characterization “Characterize Paper” and the change of the “Notch/B.Mark Threshold” parameter which represents the detection threshold of the notch.
Choosing the “Yes” value for the “Characterize Paper” parameter, the device prints a graphic representation (see following figures) of the outgoing voltage of the alignment sensor (expressed as a percentage) and the “Notch/B.Mark Threshold” value.
This graphic representation is useful to set the most suitable value to assign to the “Notch/B.Mark Threshold” parameter and then to better identify the optimal threshold value which takes into account the variations of the signal and the small oscillations around zero.

The following figure shows an example of paper with the non-thermal paper printed with black marks: the outgoing voltage is constant while passing the white paper between two notches and presents a peak at each black mark.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is placed about half of the peak.



The following figure shows an example of paper with the non-thermal paper printed with black marks and other graphics (for example, a barcode): the outgoing voltage is constant while passing the white paper between two notches, presents a peak at each black mark and presents some “noise” at each barcode.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is located about halfway between the peak value and the maximum value of the “noise”.



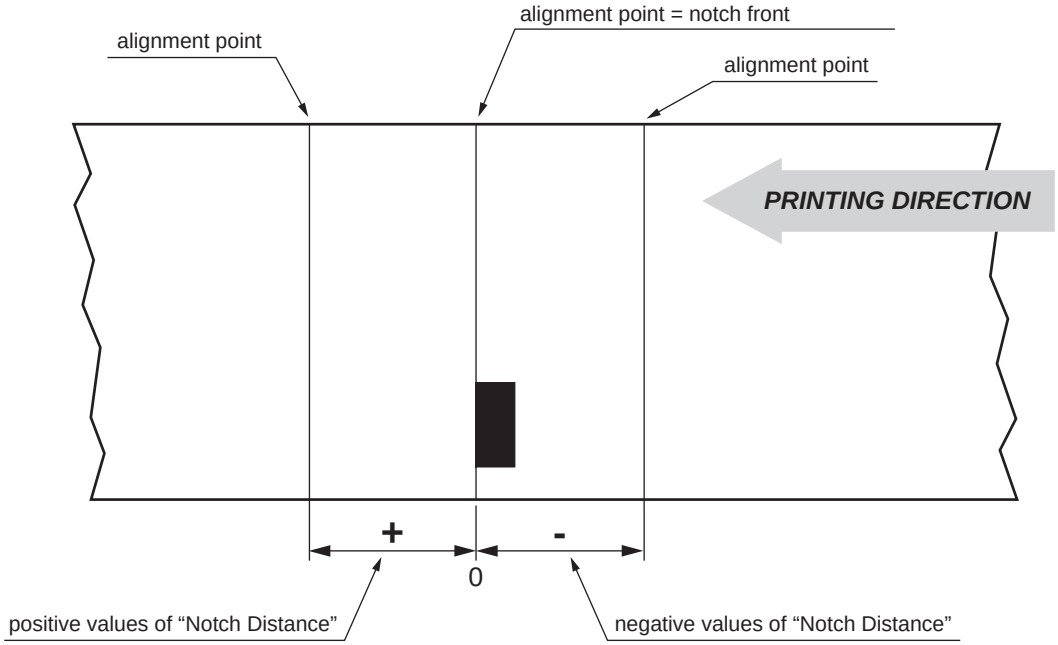
If the maximum value of “noise” read by the sensor is very close to the peak value, it might be difficult to place the value of the “Notch/B.Mark Threshold” at an intermediate point. In these cases, it is mandatory that the portion of paper between the point of printing end and the front notch is completely white (no graphics). In this way, the only next graphic detected by the sensor for alignment after the printing end will be the notch.

10.3 Alignment parameters

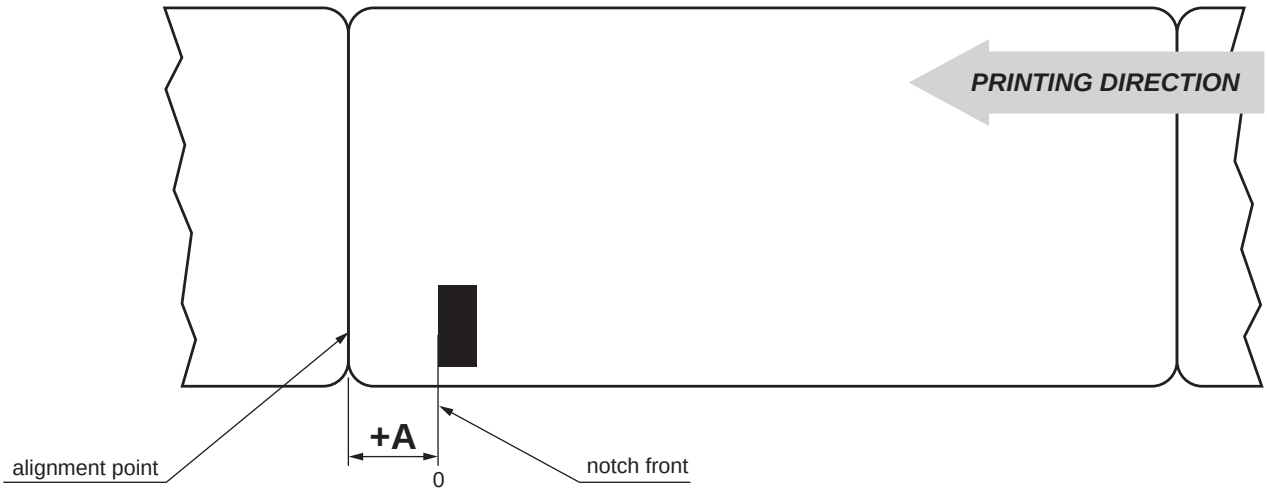
The “alignment point” is defined as the position inside the ticket to use for the notch alignment. If you use paper with perforation (FanFold modules), the alignment point corresponds with the edge of the ticket.
The distance between the notch edge and the alignment point is defined as “Notch Distance”.

Referring to the front of the notch, the value of “Notch Distance” varies according to emulation set:
- VKP80III emulation: “Notch Distance” value varies from -5mm minimum and 99.9mm maximum
- VKP80II emulation: “Notch Distance” value varies from 0mm minimum and 32mm maximum.

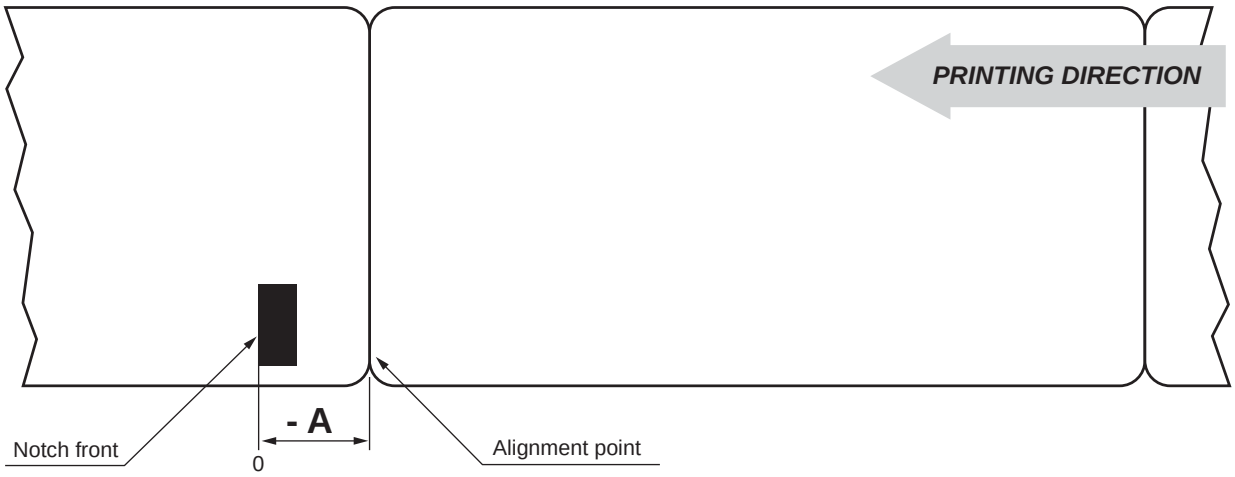
If the “Notch Distance” value is set to 0, the alignment point is set at the beginning of the notch.



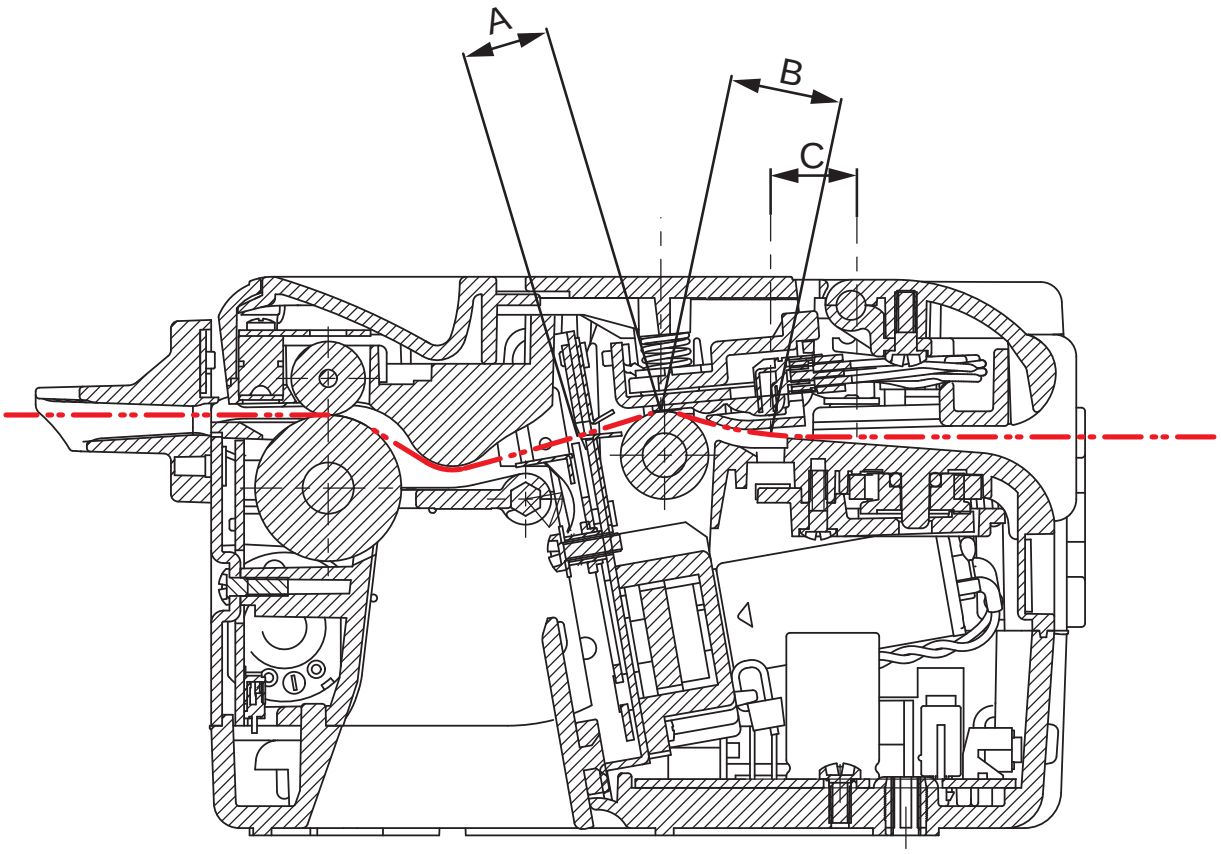
The following figure shows an example of paper with alignment point set by a positive value of “Notch Distance” (“Notch Distance” = + A):



To set a negative value of the “Notch Distance” parameter is useful in cases where the alignment point refers to the notch printed on the previous ticket. In the following images, the value of “Notch Distance” parameter is set to -A.



The following figure shows a section of the device with the paper path and the distances between the alignment sensors, the printing head and the cutter (cutting line), where
A = 11.9mm = distance between the cutting line (cutter) and the printing line (head) on paper
B = 15.3mm = distance between the the printing line (head) and the mobile alignment sensors (bottom)
C = 11.8mm = distance between the mobile alignment sensor (bottom) and the upper alignment sensor (only for models with left upper sensor or right upper sensor)



VKP80II, VKP80III EMULATION

To define the alignment point you need to set the printer parameters that compose the numerical value of the “Notch Distance” parameter.
For example, to set a notch distance of 15mm between the notch and the alignment point, the parameters must be set on the following values:

Notch Distance Sign	: +
Notch Distance [mm x 10]	: 1
Notch Distance [mm x 1]	: 5
Notch Distance [mm x .1]	: 0

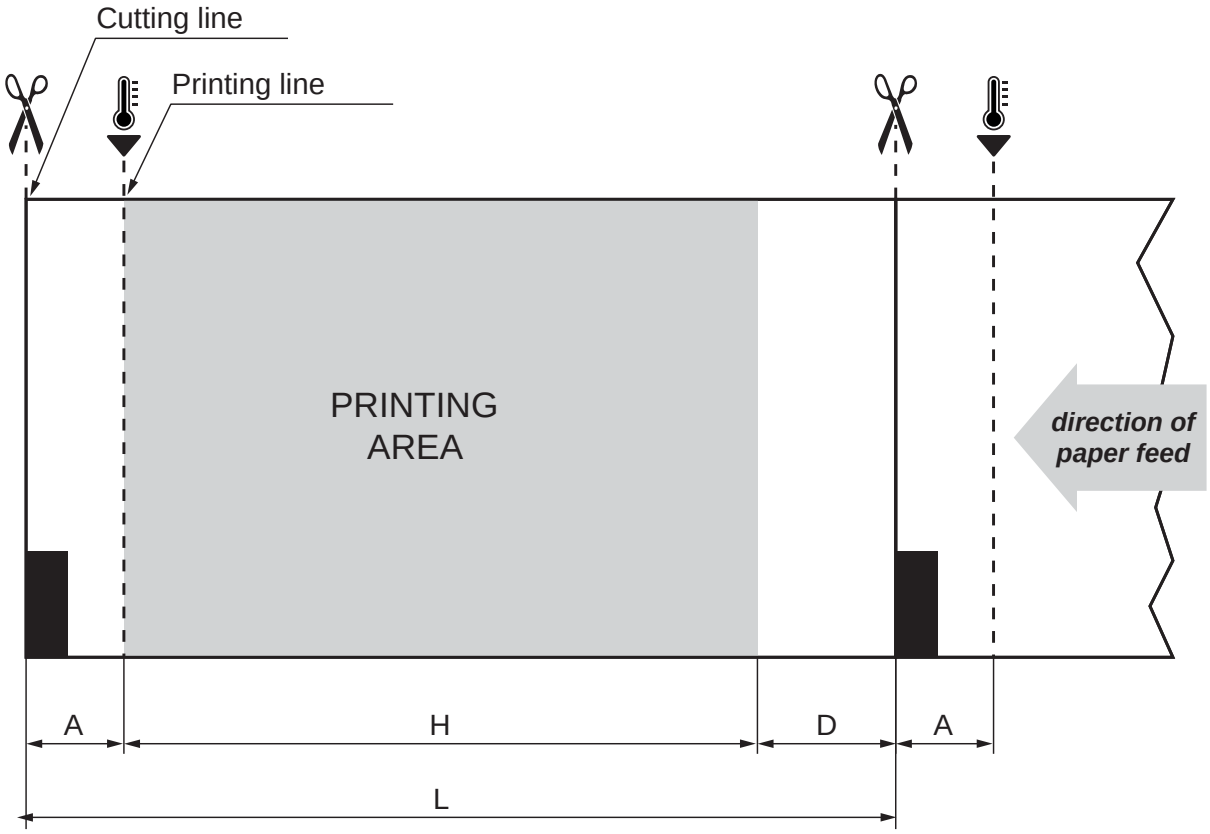
The “Notch Distance” parameter, may be modified as follows:
- during the Setup procedure of the device (see chapter 5)
- by using the $1D $E7 command (for more details, refer to the Commands Manual)
- by driver.

10.4 Printing area

In order to print ticket containing only one notch and to not overlay printing to a notch (that will make it useless for the next alignment), it is important to well calibrate:

- The height of the printing area of ticket according to the inter-notch distance
- The value for the paper recovery after a cut (if present)

The following figure shows an example of tickets with “Notch Distance” set to 0:



A “Non-printable area” = “Distance between cutter/printing head” - “Value for the paper recovery after a cut”

where:
“Distance between cutter/printing head” = 11,9mm (fixed distance)
“Value for the paper recovery after a cut” in VKP80II emulat. = 0mm
“Value for the paper recovery after a cut” in VKP80III emulat. = variable from 0mm (default value) to 11,9mm according to the settings of $1C $C1 command (see Command Manual)

H Distance between the first and the last print line, called “Height of the printing area”.

L Distance between an edge of the notch and the next one, called “Inter-notch distance”.

D Automatic feed for alignment at the next notch.

To use all the notches on the paper, you must comply with the following equation:

$$H + A \leq L$$

The height of the printing area (H) can be increased to make no progress on alignment (D = 0) but no further.

11 TECHNICAL SERVICE

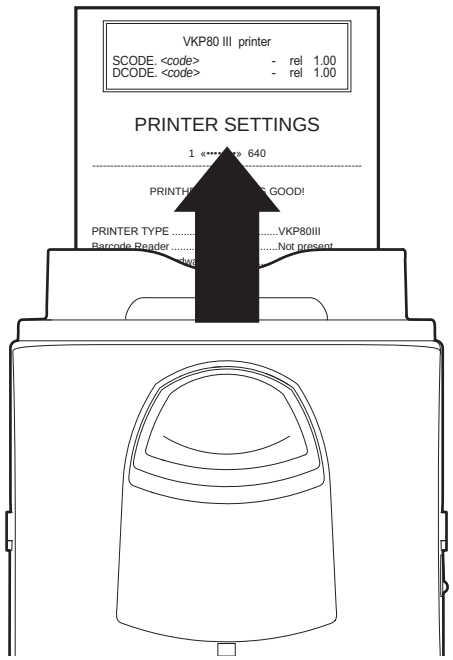
In case of failure, contact the Technical Service by sending an e-mail to support@custom.it detailing:
1. Product code
2. Serial number
3. Hardware release
4. Firmware release

To get the necessary data, proceed as follows:

1

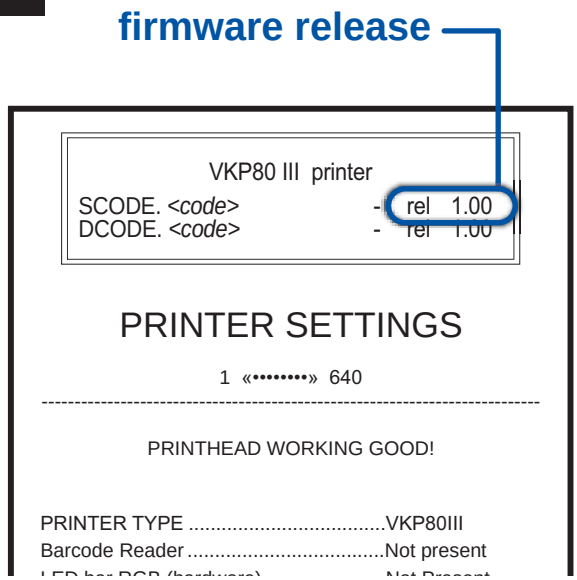
Write down the data printed
on the product label (see paragraph 2.2)

2



Print a Setup report
(see paragraph 5.2)

3



The Setup report shows
the firmware release

4

support@custom.it
Customer Service Department

Send an e-mail to the Technical Service,
with the data collected

Part Number : 76200000000300 Rev.1.65

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